

745
8
2

The American Museum of Natural History



1869
THE LIBRARY



AMERICAN ORNITHOLOGY;
OR, THE
NATURAL HISTORY
OF THE
BIRDS OF THE UNITED STATES.

ILLUSTRATED WITH PLATES
ENGRAVED FROM DRAWINGS FROM NATURE.

BY
ALEXANDER WILSON
AND
CHARLES LUCIAN BONAPARTE.

POPULAR EDITION.

VOL. II.



PHILADELPHIA:
PORTER & COATES,
822 CHESTNUT STREET.

AMERICAN ORNITHOLOGY;

NATURAL HISTORY

BIRDS OF THE UNITED STATES

BY ALEXANDER WILSON

WITH ILLUSTRATIONS BY J. J. AUDUBON

AND

CHARLES LUCIAN BONAPARTE

SECOND EDITION



THE
SMITHSONIAN INSTITUTION
WASHINGTON, D. C.

THE PAGES IN THIS VOLUME HAVE
BEEN INTERLEAVED WITH AN ACID
FREE PAPER TO PERMIT BINDING
AND TO REDUCE FURTHER DETERIORATION.

	PAGE
	9
	16
	25
	28
	32
	34
	35
	36
	38
<i>migratorius</i> , Robin,	43
<i>Ampelis Americana</i> , Cedar-bird,	46
<i>Loxia Cardinalis</i> , Cardinal Grosbeak,	51
<i>Ludoviciana</i> , Rose-breasted Grosbeak,	54
<i>cærulea</i> , Blue Grosbeak,	55
<i>enucleator</i> , Pine Grosbeak,	56
<i>Curvirostra Americana</i> , American Crossbill,	58
<i>leucoptera</i> , White-winged Crossbill,	61
<i>Emberiza Americana</i> , Black-throated Bunting,	62
<i>erythrophthalma</i> , Towhee Bunting, male,	63
female,	65
<i>oryzivora</i> , Rice Bunting,	66
<i>pecoris</i> , Cow Bunting,	71
<i>nivalis</i> , Snow Bunting,	84
<i>ciris</i> , Painted Bunting,	87
<i>leucophrys</i> , White-crowned Bunting,	90
<i>graminea</i> , Bay-winged Bunting,	91
<i>Tanagra rubra</i> , Scarlet Tanager,	92
<i>æstiva</i> , Summer Red-bird,	96
<i>Ludoviciana</i> , Louisiana Tanager,	99
<i>Fringilla tristis</i> , Yellow-bird or Goldfinch,	101
<i>purpurea</i> , Purple Finch, adult male,	103
male in winter plumage,	105
<i>pusilla</i> , Field Sparrow,	106

	PAGE
<i>Fringilla arborca</i> , Tree Sparrow,	107
<i>melodia</i> , Song Sparrow,	109
<i>socialis</i> , Chipping Sparrow,	110
<i>Hudsonia</i> , Snow-bird,	111
<i>pinus</i> , Pine Finch,	114
<i>albicollis</i> , White-throated Sparrow,	115
<i>palustris</i> , Swamp Sparrow,	116
<i>maritima</i> , Sea-side Finch,	117
<i>caudacuta</i> , Sharp-tailed Finch,	118
<i>Savanna</i> , Savannah Finch, male,	119
female,	120
<i>ferruginea</i> , Fox-colored Sparrow,	121
<i>linaria</i> , Lesser Red-poll,	122
<i>passerina</i> , Yellow-winged Sparrow,	123
<i>cyanca</i> , Indigo-bird,	124
<i>Muscicapa tyrannus</i> , Tyrant Flycatcher, or King-bird,	128
<i>crinita</i> , Great Crested Flycatcher,	134
<i>nunciola</i> , Pewit Flycatcher,	135
<i>rapax</i> , Wood Pewee Flycatcher,	137
<i>querula</i> , Small Green Crested Flycatcher,	138
<i>ruticilla</i> , American Redstart, male,	139
young bird,	141
<i>carulea</i> , Blue-gray Flycatcher,	142
<i>sylvicola</i> , Yellow-throated Flycatcher,	143
<i>solitaria</i> , Solitary Flycatcher,	144
<i>cantatrix</i> , White-eyed Flycatcher,	145
<i>melodia</i> , Warbling Flycatcher,	146
<i>olivacea</i> , Red-eyed Flycatcher,	147
<i>cucullata</i> , Hooded Flycatcher,	149
<i>Canadensis</i> , Canada Flycatcher,	150
<i>musilla</i> , Green Black-capped Flycatcher,	151
<i>minuta</i> , Small-headed Flycatcher,	152
<i>Alauda magna</i> , Meadow Lark,	153
<i>alpestris</i> , Shore Lark,	155
<i>rufa</i> , Brown Lark,	157
<i>Sylvia sialis</i> , Blue-bird,	158
<i>calendula</i> , Ruby-crowned Wren,	165
<i>Marylandica</i> , Maryland Yellow-throat, male,	167
female,	168
<i>regulus</i> , Golden-crested Wren,	169
<i>domestica</i> , House Wren,	171
<i>trogodytes</i> , Winter Wren,	174
<i>flavicollis</i> , Yellow-throat Warbler,	176
<i>castanea</i> , Bay-breasted Warbler,	177
<i>Pennsylvanica</i> , Chestnut-sided Warbler,	178
<i>Philadelphia</i> , Mourning Warbler,	179

	PAGE
<i>Sylvia solitaria</i> , Blue-winged Yellow Warbler, . . .	180
<i>chrysoptera</i> , Golden-winged Warbler, . . .	182
<i>citrinella</i> , Blue-eyed Yellow Warbler, . . .	183
<i>Canadensis</i> , Black-throated Blue Warbler, . . .	184
<i>virens</i> , Black-throated Green Warbler, . . .	185
<i>coronata</i> , Yellow-rump Warbler, full plumage, . . .	186
winter dress, . . .	188
<i>cærulea</i> , Cærulean Warbler, . . .	189
<i>pinus</i> , Pine-creeping Warbler, . . .	190
<i>magnolia</i> , Black and Yellow Warbler, . . .	191
<i>Blackburnie</i> , Blackburnian Warbler, . . .	192
<i>autumnalis</i> , Autumnal Warbler, . . .	193
<i>protonotarius</i> , Prothonotary Warbler, . . .	194
<i>vermivora</i> , Worm-eating Warbler, . . .	195
<i>peregrina</i> , Tennessee Warbler, . . .	196
<i>formosa</i> , Kentucky Warbler, . . .	197
<i>minuta</i> , Prairie Warbler, . . .	198
<i>rara</i> , Blue-green Warbler, . . .	199
<i>rubricapilla</i> , Nashville Warbler, . . .	200
<i>pusilla</i> , Blue Yellow-back Warbler, . . .	201
<i>petechia</i> , Yellow Red-poll Warbler, . . .	202
<i>striata</i> , Black-poll Warbler, male, . . .	203
female, . . .	204
<i>agilis</i> , Connecticut Warbler, . . .	205
<i>leucoptera</i> , Pine-swamp Warbler, . . .	206
<i>montana</i> , Blue-mountain Warbler, . . .	207
<i>parus</i> , Hemlock Warbler, . . .	208
<i>maritima</i> , Cape-May Warbler, . . .	209
<i>Pipra polyglotta</i> , Yellow-breasted Chat, . . .	210
<i>Parus atricapillus</i> , Black-capped Titmouse, . . .	213
<i>bicolor</i> , Crested Titmouse, . . .	215
<i>Hirundo purpurea</i> , Purple Martin, . . .	216
<i>Americana</i> , Barn Swallow, . . .	221
<i>viridis</i> , White-bellied Swallow, . . .	228
<i>riparia</i> , Bank Swallow or Sand Martin, . . .	229
<i>pelasgia</i> , Chimney Swallow, . . .	231
<i>Caprimulgus Carolinensis</i> , Chuck-Will's-Widow, . . .	238
<i>Americanus</i> , Night Hawk, . . .	241
<i>vociferus</i> , Whip-poor-will, . . .	245
<i>Columba migratoria</i> , Passenger Pigeon, . . .	253
<i>Carolinensis</i> , Carolina Pigeon, or Turtle Dove, . . .	261
<i>passerina</i> , Ground Dove, . . .	263
<i>Tetrao umbellus</i> , Ruffed Grouse, . . .	265
<i>Cupido</i> , Pinnated Grouse, . . .	270
<i>Perdix Virginianus</i> , Quail or Partridge, . . .	280
Introduction to the Water Birds, . . .	285

	PAGE
<i>Platalca Ajaja</i> , Roseate Spoonbill,	289
<i>Ardea minor</i> , American Bittern,	291
<i>Cerulea</i> , Blue Heron,	292
<i>Herodias</i> , Great Heron,	294
<i>Egretta</i> , Great White Heron,	299
<i>virescens</i> , Green Heron,	301
<i>exilis</i> , Least Bittern,	303
<i>Louisianiana</i> , Louisiana Heron,	304
<i>nycticorax</i> , Night-Heron, or Qu-bird,	305
<i>candidissima</i> , Snowy Heron,	309
<i>Americana</i> , Whooping Crane,	312
<i>violacea</i> , Yellow-crowned Heron,	314
<i>Tantalus Loculator</i> , Wood Ibis,	316
<i>ruber</i> , Scarlet Ibis,	317
<i>albus</i> , White Ibis,	319
<i>Numenius longirostris</i> , Long-billed Curlew,	320
<i>borealis</i> , Esquimaux Curlew,	322
<i>Scolopax Fedoa</i> , Great Marbled Godwit,	324
<i>minor</i> , Woodcock,	326
<i>Galinago</i> , Snipe,	329
<i>Noveboracensis</i> , Red-breasted Snipe,	331
<i>semipalmata</i> , Semipalmated Snipe,	333
<i>vociferus</i> , Tell-tale Godwit, or Snipe,	335
<i>flavipes</i> , Yellow-shanks Snipe,	337
<i>Tringa Bartramia</i> , Bartram's Sandpiper,	339
<i>solitaria</i> , Solitary Sandpiper,	341
<i>maculata</i> , Spotted Sandpiper,	342
<i>semipalmata</i> , Semipalmated Sandpiper,	344
<i>pusilla</i> , Little Sandpiper,	345
<i>alpina</i> , Red-backed Sandpiper,	346
<i>cinclus</i> , The Purre,	347
<i>rufa</i> , Red-breasted Sandpiper,	349
<i>cinerea</i> , Ash-colored Sandpiper,	350
<i>interpres</i> , Turnstone,	352
<i>Charadrius Hiaticula</i> , Ringed Plover,	355
<i>Hiaticula</i> , Ring Plover,	357
<i>Wilsonius</i> , Wilson's Plover,	359
<i>vociferus</i> , Kildeer Plover,	360
<i>Pluvialis</i> , Golden Plover,	362
<i>apricarius</i> , Black-bellied Plover,	364
<i>Calidris</i> , Sanderling Plover,	368
<i>rubidus</i> , Ruddy Plover,	370
<i>Homatopus ostralis</i> , Pied Oyster-catcher,	371
<i>Rallus crepitans</i> , Clapper Rail,	374
<i>Virginianus</i> , Virginian Rail,	378
<i>Carolinus</i> , Rail,	380
<i>Gallinula Martinica</i> , Martinico Gallinule,	389

AMERICAN ORNITHOLOGY.

ORDER III. PASSERES. PASSERINE.

GENUS XXXI. STURNUS. STARLING.

SPECIES. *S. PREDATORIUS*.

RED-WINGED STARLING.

[Plate XXX. Fig. 1, Male.—Fig. 2, Female.]

Oriolus phæniceus, LINN. *Syst.* 161.—*Red-winged Oriole*, *Arct. Zool.* 255, No. 140.—*Icterus pterophænicieus*, BRISS. II., 97.—*Le Commandeur*, BUFF. III., 214, *Pl. Enl.* 402.—LATH. I., 428.—*Acolchichi*, FERNAND. *Nov. Hisp.* p. 14. *Red-winged Starling*, CATESB. p. 13.

THIS notorious and celebrated *corn-thief*, the long-reputed plunderer and pest of our honest and laborious farmers, now presents himself before us, with his copartner in iniquity,* to receive the character due for their very active and distinguished services. In investigating the nature of these, I shall endeavor to render strict historical justice to this noted pair; adhering to the honest injunctions of the poet,

“Nothing extenuate,
Nor set down aught in malice.”

Let the reader divest himself equally of prejudice, and we shall be at no loss to ascertain accurately their true character.

The Red-winged Starlings, though generally migratory in the states north of Maryland, are found during winter in immense flocks, sometimes associated with the Purple Grakles, and often by themselves, along the whole lower parts of Virginia, both Carolinas, Georgia, and Louisiana, particularly near the sea-coast, and in the vicinity of large rice and corn fields. In the months of January and February, while passing through the former of these countries, I was frequently entertained with

* Wilson here alludes to the Pileated Woodpecker, which in the original edition precedes the Red-winged Starling.

the aerial evolutions of those great bodies of Starlings. Sometimes they appeared driving about like an enormous black cloud carried before the wind, varying its shape every moment. Sometimes suddenly rising from the fields around me with a noise like thunder; while the glittering of innumerable wings of the brightest vermilion amid the black cloud they formed, produced on these occasions a very striking and splendid effect. Then descending like a torrent, and covering the branches of some detached grove, or clump of trees, the whole congregated multitude commenced one general concert or chorus, that I have plainly distinguished at the distance of more than two miles, and when listened to at the intermediate space of about a quarter of a mile, with a slight breeze of wind to swell and soften the flow of its cadences, was to me grand and even sublime. The whole season of winter, that with most birds is past in struggling to sustain life, in silent melancholy, is with the Red-wings one continued carnival. The profuse gleanings of the old rice, corn, and buckwheat fields, supply them with abundant food, at once ready and nutritious; and the intermediate time is spent either in aerial manœuvres, or in grand vocal performances, as if solicitous to supply the absence of all the tuneful summer tribes, and to cheer the dejected face of nature with their whole combined powers of harmony.

About the twentieth of March, or earlier if the season be open, they begin to enter Pennsylvania in numerous though small parties. These migrating flocks are usually observed from daybreak to eight or nine in the morning, passing to the north, chattering to each other as they fly along; and, in spite of all our antipathy, their well known notes and appearance, after the long and dreary solitude of winter, inspire cheerful and pleasing ideas of returning spring warmth and verdure. Selecting their old haunts, every meadow is soon enlivened by their presence. They continue in small parties to frequent the low borders of creeks, swamps and ponds, till about the middle of April, when they separate in pairs to breed; and about the last week in April, or first in May, begin to construct their nest. The place chosen for this is generally within the precincts of a marsh or swamp, meadow or other like watery situation. The spot usually a thicket of alder bushes, at the height of six or seven feet from the ground; sometimes in a detached bush in a meadow of high grass; often in a tussock of rushes or coarse rank grass; and not unfrequently in the ground. In all of which situations I have repeatedly found them. When in a bush they are generally composed outwardly of wet rushes picked from the swamp, and long tough grass in large quantity, and well lined with very fine bent. The rushes, forming the exterior, are generally extended to several of the adjoining twigs, round which they are repeatedly and securely twisted; a precaution absolutely necessary for its preservation, on account of the flexible nature of the bushes in which it is placed. The same caution

is observed when a tussock is chosen, by fastening the tops together, and intertwining the materials of which the nest is formed with the stalks of rushes around. When placed in the ground, less care and fewer materials being necessary, the nest is much simpler and slighter than before. The female lays five eggs, of a very pale light blue, marked with faint tinges of light purple and long straggling lines and dashes of black. It is not uncommon to find several nests in the same thicket, within a few feet of each other.

During the time the female is sitting, and still more particularly after the young are hatched, the male, like most other birds that build in low situations, exhibits the most violent symptoms of apprehension and alarm on the approach of any person to its near neighborhood. Like the Lapwing of Europe he flies to meet the intruder, hovers at a short height over head, uttering loud notes of distress; and while in this situation displays to great advantage the rich glowing scarlet of his wings, heightened by the jetty black of his general plumage. As the danger increases, his cries become more shrill and incessant, and his motions rapid and restless; the whole meadow is alarmed, and a collected crowd of his fellows hover around, and mingle their notes of alarm and agitation with his. When the young are taken away, or destroyed, he continues for several days near the place, restless and dejected, and generally recommences building soon after, in the same meadow. Towards the beginning or middle of August, the young birds begin to fly in flocks, and at that age nearly resemble the female, with the exception of some reddish or orange, that marks the shoulders of the males, and which increases in space and brilliancy as winter approaches. It has been frequently remarked that at this time the young birds chiefly associate by themselves, there being sometimes not more than two or three old males observed in a flock of many thousands. These, from the superior blackness and rich red of their plumage, are very conspicuous.

Before the beginning of September these flocks have become numerous and formidable, and the young ears of maize, or Indian corn, being then in their soft, succulent, milky state, present a temptation that cannot be resisted. Reinforced by numerous and daily flocks from all parts of the interior, they pour down on the low countries in prodigious multitudes. Here they are seen, like vast clouds, wheeling and driving over the meadows and devoted corn fields, darkening the air with their numbers. Then commences the work of destruction on the corn, the husks of which, though composed of numerous envelopments of closely wrapped leaves, are soon completely or partially torn off; while from all quarters myriads continue to pour down like a tempest, blackening half an acre at a time; and, if not disturbed, repeat their depredations till little remains but the cob and the shrivelled skins of the grain; what

little is left of the tender ear being exposed to the rains and weather is generally much injured. All the attacks and havoc made at this time among them with the gun, and by the Hawks, several species of which are their constant attendants, has little effect on the remainder. When the Hawks make a sweep among them they suddenly open on all sides, but rarely in time to disappoint them of their victims; and though repeatedly fired at, with mortal effect, they only remove from one field to an adjoining one, or to another quarter of the same enclosure. From dawn to nearly sun-set, this open and daring devastation is carried on, under the eye of the proprietor; and a farmer who has any considerable extent of corn would require half a dozen men at least with guns to guard it; and even then, all their vigilance and activity would not prevent a good tithe of it from becoming the prey of the Blackbirds. The Indians, who usually plant their corn in one general field, keep the whole young boys of the village, all day patrolling round and among it; and each being furnished with bow and arrows, with which they are very expert, they generally contrive to destroy great numbers of them.

It must, however, be observed, that this scene of pillage is principally carried on in the low countries, not far from the sea-coast, or near the extensive flats that border our large rivers; and is also chiefly confined to the months of August and September. After this period the corn having acquired its hard shelly coat, and the seeds of the reeds or wild oats, with a profusion of other plants that abound along the river shores, being now ripe, and in great abundance, present a new and more extensive field for these marauding multitudes. The reeds also supply them with convenient roosting places, being often in almost unapproachable morasses; and thither they repair every evening from all quarters of the country. In some places, however, when the reeds become dry, advantage is taken of this circumstance to destroy these birds by a party secretly approaching the place under cover of a dark night, setting fire to the reeds in several places at once, which being soon enveloped in one general flame the uproar among the Blackbirds becomes universal, and by the light of the conflagration they are shot down in vast numbers, while hovering and screaming over the place. Sometimes straw is used for the same purpose, being previously strewed near the reeds and alder bushes where they are known to roost, which being instantly set on fire, the consternation and havoc is prodigious; and the party return by day to pick up the slaughtered game. About the first of November they begin to move off towards the south; though near the sea-coast, in the states of New Jersey and Delaware, they continue long after that period.

Such are the general manners and character of the *Red-winged Starling*; but there remain some facts to be mentioned, no less authentic,

and well deserving the consideration of its enemies, more especially of those whose detestation of this species would stop at nothing short of total extirpation.

It has been already stated that they arrive in Pennsylvania late in March. Their general food at this season, as well as during the early part of summer (for the Crows and Purple Grakles are the principal pests in planting time), consists of grub-worms, caterpillars, and various other larvæ, the silent but deadly enemies of all vegetation, and whose secret and insidious attacks are more to be dreaded by the husbandman than the combined forces of the whole feathered tribes together. For these vermin the Starlings search with great diligence; in the ground, at the roots of plants, in orchards, and meadows, as well as among buds, leaves and blossoms; and from their known voracity the multitudes of these insects which they destroy must be immense. Let me illustrate this by a short computation. If we suppose each bird, on an average, to devour fifty of these larvæ in a day (a very moderate allowance), a single pair in four months, the usual time such food is sought after, will consume upwards of twelve thousand. It is believed, that not less than a million pair of these birds are distributed over the whole extent of the United States in summer; whose food being nearly the same, would swell the amount of vermin destroyed to twelve thousand millions. But the number of young birds may be fairly estimated at double that of their parents, and as these are constantly fed on larvæ for at least three weeks, making only the same allowance for them as for the old ones, their share would amount to four thousand two hundred millions; making a grand total of sixteen thousand two hundred millions of noxious insects destroyed in the space of four months by this single species! The combined ravages of such a hideous host of vermin would be sufficient to spread famine and desolation over a wide extent of the richest and best cultivated country on earth. All this, it may be said, is mere supposition. It is, however, supposition founded on known and acknowledged facts. I have never dissected any of these birds in spring without receiving the most striking and satisfactory proofs of those facts; and though in a matter of this kind it is impossible to ascertain precisely the amount of the benefits derived by agriculture from this and many other species of our birds; yet in the present case I cannot resist the belief, that the services of this species, in spring, are far more important and beneficial than the value of all that portion of corn which a careful and active farmer permits himself to lose by it.

The great range of country frequented by this bird extends from Mexico on the south, to Labrador. Our late enterprising travellers across the continent to the Pacific Ocean observed it numerous in several of the valleys at a great distance up the Missouri. When taken alive, or reared from the nest, it soon becomes familiar, sings frequently,

bristling out its feathers something in the manner of the Cow Bunting. These notes, though not remarkably various, are very peculiar. The most common one resembles the syllables *conk-quer ree*; others the shrill sounds produced by filing a saw; some are more guttural; and others remarkably clear. The usual note of both male and female is a single *chuck*. Instances have been produced where they have been taught to articulate several words distinctly; and contrary to that of many birds the male loses little of the brilliancy of his plumage by confinement.

A very remarkable trait of this bird is the great difference of size between the male and female; the former being nearly two inches longer than the latter, and of proportionate magnitude. They are known by various names in the different states of the Union; such as the *Swamp Blackbird*, *Marsh Blackbird*, *Red-winged Blackbird*, *Corn or Maize-thief*, *Starling*, &c. Many of them have been carried from this to different parts of Europe, and Edwards relates that one of them, which had no doubt escaped from a cage, was shot in the neighborhood of London; and on being opened, its stomach was found to be filled with grub worms, caterpillars and beetles; which Buffon seems to wonder at, as "in their own country," he observes, "they feed exclusively on grain and maize."

Hitherto this species has been generally classed by naturalists with the Orioles. By a careful comparison, however, of its bill with those of that tribe, the similarity is by no means sufficient to justify this arrangement; and its manners are altogether different. I can find no genus to which it makes so near an approach, both in the structure of the bill and in food, flight and manners as those of the *Stare*, with which, following my judicious friend Mr. Bartram, I have accordingly placed it. To the European the perusal of the foregoing pages will be sufficient to satisfy him of their similarity of manners. For the satisfaction of those who are unacquainted with the common Starling of Europe, I shall select a few sketches of its character, from the latest and most accurate publication I have seen from that quarter.* Speaking of the Stare or Starling, this writer observes, "In the winter season these birds fly in vast flocks, and may be known at a great distance by their whirling mode of flight, which Buffon compares to a sort of vortex, in which the collective body performs a uniform circular revolution, and at the same time continues to make a progressive advance. The evening is the time when the Stares assemble in the greatest numbers, and betake themselves to the fens and marshes, where they roost among the reeds: they chatter much in the evening and morning, both when they assemble and disperse. So attached are they to society that they not

* Bewick's British Birds, part i., p. 119, Newcastle, 1809.

only join those of their own species, but also birds of a different kind; and are frequently seen in company with Red-wings (a species of Thrush), Fieldfares, and even with Crows, Jackdaws and Pigeons. Their principal food consists of worms, snails and caterpillars; they likewise eat various kinds of grain, seeds and berries." He adds, that "in a confined state they are very docile, and may easily be taught to repeat short phrases, or whistle tunes with great exactness."

The *Red-winged Starling*, fig. 1, is nine inches long, and fourteen inches in extent; the general color is a glossy black, with the exception of the whole lesser wing coverts, the first or lower row of which is of a reddish cream color, the rest a rich and splendid scarlet; legs and bill glossy brownish black; irides hazel; bill cylindrical above, compressed at the sides, straight, running considerably up the forehead, where it is prominent, rounding and flattish towards the tip, though sharp pointed; tongue nearly as long as the bill, tapering and lacerated at the end; tail rounded, the two middle feathers also somewhat shorter than those immediately adjoining.

The female, fig. 2, is seven inches and a quarter in length, and twelve inches in extent; chin a pale reddish cream; from the nostril over the eye, and from the lower mandible run two stripes of the same, speckled with black; from the posterior angle of the eye backwards, a streak of brownish black covers the auriculars; throat, and whole lower parts, thickly streaked with black and white, the latter inclining to cream on the breast; whole plumage above black, each feather bordered with pale brown, white or bay, giving the bird a very mottled appearance; lesser coverts the same; bill and legs as in the male.

The young birds at first greatly resemble the female; but have the plumage more broadly skirted with brown. The red early shows itself on the lesser wing-coverts of the males, at first pale, inclining to orange, and partially disposed. The brown continues to skirt the black plumage for a year or two, so that it is rare to find an old male altogether destitute of some remains of it; but the red is generally complete in breadth and brilliancy by the succeeding spring. The females are entirely destitute of that ornament.

The flesh of these birds is but little esteemed, being in general black, dry and tough. Strings of them are, however, frequently seen exposed for sale in our markets.

GENUS XXXII. TURDUS. THRUSH.

SPECIES I. *T. POLYGLOTTUS*.

MOCKING-BIRD.

[Plate X. Fig. 1.]

Mimic Thrush, LATH. *Syn.* III., p. 40, No. 42.—*Arct. Zool.* II., No. 194.—*Turdus polyglottus*, LINN. *Syst.* I., p. 293, No. 10.—*Le grand Moqueur*, BRISS. *Orn.* II., p. 266, 29.—BUFF. *Ois.* III., p. 325. *Pl. Enl.* 558, fig. 1.—*Singing-bird, Mocking-bird, or Nightingale*, RAIL. *Syn.* p. 64, No. 5, p. 185, 31.—SLOAN, *Jam.* II., 306, No. 34.—*The Mock-bird*, CATESB. *Car.* I., Pl. 27.

THIS celebrated and very extraordinary bird, in extent and variety of vocal powers, stands unrivalled by the whole feathered songsters of this or perhaps any other country; and shall receive from us, in this place, all that attention and respect which superior merit is justly entitled to.

Among the many novelties which the discovery of this part of the western continent first brought into notice, we may reckon that of the Mocking-bird; which is not only peculiar to the new world, but inhabits a very considerable extent of both North and South America; having been traced from the states of New England to Brazil; and also among many of the adjacent islands. They are, however, much more numerous in those states south, than in those north, of the river Delaware; being generally migratory in the latter, and resident (at least many of them) in the former. A warm climate, and low country, not far from the sea, seem most congenial to their nature; accordingly we find the species less numerous to the west than east of the great range of the Alleghany, in the same parallels of latitude. In the severe winter of 1808-9, I found these birds, occasionally, from Fredericksburg in Virginia, to the southern parts of Georgia; becoming still more numerous the farther I advanced to the south. The berries of the red cedar, myrtle, holly, Cassine shrub, many species of smilax, together with gum berries, gall berries, and a profusion of others with which the luxuriant swampy thickets of those regions abound, furnish them with a perpetual feast. Winged insects, also, of which they are very fond, and remarkably expert at catching, abound there even in winter, and are an additional inducement to residency. Though rather a shy bird in the Northern States, here he appeared almost half domesticated, feeding on the cedars and among the thickets of smilax, that lined the roads, while I passed

within a few feet; playing around the planter's door, and hopping along the shingles. During the month of February I sometimes heard a solitary one singing; but on the second of March, in the neighborhood of Savannah, numbers of them were heard on every hand, vying in song with each other, and, with the Brown Thrush, making the whole woods vocal with their melody. Spring was at that time considerably advanced; and the thermometer ranged between 70 and 78 degrees. On arriving at New York, on the twenty-second of the same month, I found many parts of the country still covered with snow, and the streets piled with ice to the height of two feet; while neither the Brown Thrush nor Mocking-bird was observed, even in the lower parts of Pennsylvania, until the twentieth of April.

The precise time at which the Mocking-bird begins to build his nest varies according to the latitude in which he resides. In the lower parts of Georgia he commences building early in April; but in Pennsylvania rarely before the tenth of May; and in New York, and the states of New England, still later. There are particular situations to which he gives the preference. A solitary thorn bush, an almost impenetrable thicket; an orange-tree, cedar, or holly-bush, are favorite spots, and frequently selected. It is no great objection with him that these happen, sometimes, to be near the farm or mansion house: always ready to defend, but never over anxious to conceal, his nest, he very often builds within a small distance of the house; and not unfrequently in a pear or apple tree; rarely at a greater height than six or seven feet from the ground. The nest varies a little with different individuals, according to the conveniency of collecting suitable materials. A very complete one is now lying before me, and is composed of the following substances. First a quantity of dry twigs and sticks, then withered tops of weeds of the preceding year, intermixed with fine straws, hay, pieces of wool and tow; and lastly, a thick layer of fine fibrous roots, of a light brown color, lines the whole. The eggs, one of which is represented at fig. 2, are four, sometimes five, of a cinereous blue, marked with large blotches of brown. The female sits fourteen days, and generally produces two broods in the season, unless robbed of her eggs, in which case she will even build and lay the third time. She is however, extremely jealous of her nest, and very apt to forsake it if much disturbed. It is even asserted by some of our bird dealers, that the old ones will actually destroy the eggs, and poison the young, if either the one or the other have been handled. But I cannot give credit to this unnatural report. I know from my own experience, at least, that it is not always their practice; neither have I ever witnessed a case of the kind above mentioned. During the period of incubation neither cat, dog, animal or man, can approach the nest without being attacked. The cats, in particular, are persecuted whenever they make

their appearance, till obliged to retreat. But his whole vengeance is most particularly directed against that mortal enemy of his eggs and young, the black snake. Whenever the insidious approaches of this reptile are discovered, the male darts upon it with the rapidity of an arrow, dexterously eluding its bite, and striking it violently and incessantly about the head, where it is very vulnerable. The snake soon becomes sensible of its danger, and seeks to escape; but the intrepid defender of his young redoubles his exertions, and, unless his antagonist be of great magnitude, often succeeds in destroying him. All its pretended powers of fascination avail it nothing against the vengeance of this noble bird. As the snake's strength begins to flag the Mocking-bird seizes it and lifts it up, partly from the ground, beating it with his wings, and when the business is completed, he returns to the repository of his young, mounts the summit of the bush, and pours out a torrent of song in token of victory.

As it is of some consequence to be able to distinguish a young male bird from a female, the following marks may be attended to; by which some pretend to be able to distinguish them in less than a week after they are hatched. These are, the breadth and purity of the white on the wings, for that on the tail is not so much to be depended on. This white, in a full grown male bird, spreads over the whole nine primaries, down to, and considerably below, their coverts, which are also white, sometimes slightly tipped with brown. The white of the primaries also extends equally far on both vanes of the feathers. In the female the white is less pure, spreads over only seven or eight of the primaries, does not extend so far, and extends considerably farther down on the broad than on the narrow side of the feathers. The black is also more of a brownish cast.

The young birds, if intended for the cage, ought not to be left till they are nearly ready to fly; but should be taken rather young than otherwise; and may be fed, every half hour, with milk thickened with Indian meal; mixing occasionally with it a little fresh meat, cut or minced very fine. After they begin to eat of their own accord, they ought still to be fed by hand, though at longer intervals, and a few cherries, strawberries, &c., now and then thrown in to them. The same sort of food, adding grasshoppers and fruit, particularly the various kinds of berries in which they delight; and plenty of clear fine gravel, is found very proper for them after they are grown up. Should the bird at any time appear sick or dejected, a few spiders thrown in to him will generally remove these symptoms of disease.

If the young bird is designed to be taught by an old one, the best singer should be selected for this office, and no other allowed to be beside him. Or if by the bird organ, or mouth-whistling, it should be begun early, and continued, pretty constantly, *by the same person*, until the

scholar, who is seldom inattentive, has completely acquired his lesson. The best singing birds, however, in my own opinion, are those that have been reared in the country, and educated under the tuition of the feathered choristers of the surrounding fields, groves, woods, and meadows.

The plumage of the Mocking-bird, though none of the homeliest, has nothing gaudy or brilliant in it, and, had he nothing else to recommend him, would scarcely entitle him to notice, but his figure is well proportioned, and even handsome. The ease, elegance and rapidity of his movements, the animation of his eye, and the intelligence he displays in listening and laying up lessons from almost every species of the feathered creation within his hearing, are really surprising, and mark the peculiarity of his genius. To these qualities we may add that of a voice full, strong, and musical, and capable of almost every modulation, from the clear mellow tones of the Wood Thrush, to the savage scream of the Bald Eagle. In measure and accent he faithfully follows his originals. In force and sweetness of expression he greatly improves upon them. In his native groves, mounted on the top of a tall bush or half-grown tree, in the dawn of dewy morning, while the woods are already vocal with a multitude of warblers, his admirable song rises pre-eminent over every competitor. The ear can listen to his music alone, to which that of all the others seems a mere accompaniment. Neither is this strain altogether imitative. His own native notes, which are easily distinguishable by such as are well acquainted with those of our various song birds, are bold and full, and varied seemingly beyond all limits. They consist of short expressions of two, three, or at the most five or six syllables; generally interspersed with imitations, and all of them uttered with great emphasis and rapidity; and continued, with undiminished ardor, for half an hour, or an hour at a time. His expanded wings and tail, glistening with white, and the buoyant gayety of his action, arresting the eye, as his song most irresistibly does the ear. He sweeps round with enthusiastic ecstasy—he mounts and descends as his song swells or dies away; and, as my friend Mr. Bartram has beautifully expressed it, “He bounds aloft with the celerity of an arrow, as if to recover or recall his very soul, expired in the last elevated strain.”* While thus exerting himself, a bystander destitute of sight, would suppose that the whole feathered tribes had assembled together, on a trial of skill; each striving to produce his utmost effect; so perfect are his imitations. He many times deceives the sportsman, and sends him in search of birds that perhaps are not within miles of him; but whose notes he exactly imitates: even birds themselves are frequently imposed on by this admirable mimic, and are decoyed by the fancied calls of their mates; or

* Travels, p. 32. Introd.

dive, with precipitation, into the depth of thickets, at the scream of what they suppose to be the Sparrow Hawk.

The Mocking-bird loses little of the power and energy of his song by confinement. In his domesticated state, when he commences his career of song, it is impossible to stand by uninterested. He whistles for the dog; Cæsar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about with hanging wings, and bristled feathers, clucking to protect its injured brood. The barking of the dog, the mewing of the cat, the creaking of a passing wheelbarrow, follow, with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully. He runs over the quiverings of the Canary, and the clear whistlings of the Virginia Nightingale, or Red-bird, with such superior execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent; while he seems to triumph in their defeat by redoubling his exertions.

This excessive fondness for variety, however, in the opinion of some, injures his song. His elevated imitations of the Brown Thrush are frequently interrupted by the crowing of cocks; and the warblings of the Blue-bird, which he exquisitely manages, are mingled with the screaming of Swallows, or the cackling of Hens; amidst the simple melody of the Robin we are suddenly surprised by the shrill reiterations of the Whippoorwill; while the notes of the Kildeer, Blue Jay, Martin, Baltimore, and twenty others, succeed, with such imposing reality, that we look round for the originals, and discover, with astonishment, that the sole performer in this singular *concert* is the admirable bird now before us. During this exhibition of his powers he spreads his wings, expands his tail, and throws himself around the cage in all the ecstacy of enthusiasm, seeming not only to sing, but to dance, keeping time to the measure of his own music. Both in his native and domesticated state, during the solemn stillness of night, as soon as the moon rises in silent majesty, he begins his delightful solo; and serenades us the live-long night with a full display of his vocal powers, making the whole neighborhood ring with his inimitable medley.*

* The hunters in the Southern States, when setting out upon an excursion by night, as soon as they hear the Mocking-bird begin to sing know that the moon is rising.

A certain anonymous author, speaking of the Mocking-birds in the island of Jamaica, and their practice of singing by moonlight, thus gravely philosophizes, and attempts to account for the habit. "It is not certain," says he, "whether they are kept so wakeful by the clearness of the light, or by any extraordinary attention and vigilance, at such times, for the protection of their nursery from the piratical assaults of the Owl and the Night Hawk. It is possible that fear may operate upon them, much in the same manner as it has been observed to affect some cowardly persons, who whistle stoutly in a lonesome place, while their mind is agitated with the terror of thieves or hobgoblins." Hist. of Jam. v. III., p. 894, quarto.

Were it not to seem invidious in the eyes of foreigners, I might in this place make a comparative statement between the powers of the Mocking-bird, and the only bird I believe in the world worthy of being compared with him, the European Nightingale. This, however, I am unable to do from my own observation, having never myself heard the song of the latter; and even if I had, perhaps something might be laid to the score of *partiality*, which, as a faithful biographer, I am anxious to avoid. I shall, therefore, present the reader with the opinion of a distinguished English naturalist, and curious observer, on this subject. the Hon. Daines Barrington, who at the time he made the communication was vice president of the Royal Society, to which they were addressed.*

“It may not be improper, here,” says this gentleman, “to consider whether the Nightingale may not have a very formidable competitor in the American Mocking-bird; though almost all travellers agree, that the concert in the European woods is superior to that of the other parts of the globe. I have happened, however, to hear the American Mocking-bird, in great perfection, at Messrs. Vogels and Scotts, in Love-lane, Eastcheap. This bird is believed to be still living, and hath been in England these six years. During the space of a minute he imitated the Wood-lark, Chaffinch, Blackbird, Thrush, and Sparrow; I was told also that he would bark like a dog; so that the bird seems to have no choice in his imitations, though his pipe comes nearest to our Nightingale of any bird I have yet met with. With regard to the original notes, however, of this bird, we are still at a loss, as this can only be known by those who are accurately acquainted with the song of the other American birds. Kalm indeed informs us, that the natural song is excellent;† but this traveller seems not to have been long enough in America to have distinguished what were the genuine notes: with us mimics do not often succeed but in imitations. I have little doubt, however, but that this bird would be fully equal to the song of the Nightingale in its whole compass; but then from the attention which the *Mocker* pays to any other sort of disagreeable noise, these capital notes would be always debased by a bad mixture.”

On this extract I shall make a few remarks. If, as is here conceded, the Mocking-bird be fully equal to the song of the Nightingale; and, as I can with confidence add, not only to that but to the song of almost every other bird; besides being capable of exactly imitating various other sounds and voices of animals, his vocal powers are unquestionably superior to those of the Nightingale, which possesses its own native

* Phil. Trans. vol. LXII., part II., p. 284.

† Travels, vol. I., p. 219.

notes alone. Further: if we consider, as is asserted by Mr. Barrington, that "one reason of the Nightingale's being more attended to than others is, that it sings in the night;" and if we believe with Shakspeare, that

"The Nightingale, if she should sing by day
When every goose is cackling, would be thought
No better a musician than a Wren,"

what must we think of that bird, who in the glare of day, when a multitude of songsters are straining their throats in melody, overpowers all competition; and by the superiority of his voice, expression and action, not only attracts every ear, but frequently strikes dumb his mortified rivals;—when the silence of night as well as the bustle of day, bear witness to his melody; and when even in captivity, in a foreign country, he is declared by the best judges in that country, to be fully equal to the song of their sweetest bird *in its whole compass*? The supposed degradation of his song by the introduction of extraneous sounds, and unexpected imitations, is, in fact, one of the chief excellencies of this bird; as these changes give a perpetual novelty to his strain, keep attention constantly awake, and impress every hearer with a deeper interest in what is to follow. In short, if we believe in the truth of that mathematical axiom, that the whole is greater than a part, all that is excellent or delightful, amusing or striking, in the music of birds, must belong to *that* admirable songster, whose vocal powers are equal to the whole compass of their whole strains.

The native notes of the Mocking-bird have considerable resemblance to those of the Brown Thrush, but may easily be distinguished by their greater rapidity, sweetness, energy of expression and variety. Both, however, have in many parts of the United States, particularly in those to the south, obtained the name of *Mocking-bird*. The first, or Brown Thrush, from its inferiority of song being called the French, and the other the English Mocking-bird. A mode of expression probably originating in the prejudices of our forefathers; with whom everything *French* was inferior to everything *English*.*

The Mocking-bird is frequently taken in trap-cages, and by proper management may be made sufficiently tame to sing. The upper parts of the cage (which ought to be of wood) should be kept covered, until the bird becomes a little more reconciled to confinement. If placed in a wire cage, uncovered, he will soon destroy himself in attempting to

* The observations of Mr. Barrington, in the paper above referred to, make this supposition still more probable. "Some Nightingales," says he, "are so vastly inferior, that the bird-catchers will not keep them, branding them with the name of Frenchmen." P. 283.

get out. These birds, however, by proper treatment may be brought to sing perhaps superior to those raised by hand, and cost less trouble. The opinion which the naturalists of Europe entertain of the great difficulty of raising the Mocking-bird, and, that not one in ten survives, is very incorrect. A person called on me a few days ago, with twenty-nine of these birds, old and young, which he had carried about the fields with him for several days, for the convenience of feeding them while engaged in trapping others. He had carried them thirty miles, and intended carrying them ninety-six miles farther, viz., to New York; and told me, that he did not expect to lose one out of ten of them. Cleanliness, and regularity in feeding, are the two principal things to be attended to, and these rarely fail to succeed.

The eagerness with which the nest of the Mocking-bird is sought after in the neighborhood of Philadelphia, has rendered this bird extremely scarce for an extent of several miles around the city. In the country round Wilmington and Newcastle, they are very numerous, from whence they are frequently brought here for sale. The usual price of a singing bird is from seven to fifteen, and even twenty dollars. I have known fifty dollars paid for a remarkably fine singer; and one instance where one hundred dollars were refused for a still more extraordinary one.

Attempts have been made to induce these charming birds to pair, and rear their young in a state of confinement, and the result has been such as to prove it, by proper management, perfectly practicable. In the spring of 1808, a Mr. Klein, living in North Seventh street, Philadelphia, partitioned off about twelve feet square in the third story of his house. This was lighted by a pretty large wire-grated window. In the centre of this small room he planted a cedar bush, five or six feet high, in a box of earth; and scattered about a sufficient quantity of materials suitable for building. Into this place a male and female Mocking-bird were put, and soon began to build. The female laid five eggs, all of which she hatched, and fed the young with great affection until they were nearly able to fly. Business calling the proprietor from home, for two weeks, he left the birds to the care of his domestics; and on his return found, to his great regret, that they had been neglected in food. The young ones were all dead, and the parents themselves nearly famished. The same pair have again commenced building this season, in the same place, and have at this time, July 4, three young likely to do well. The place might be fitted up with various kinds of shrubbery, so as to resemble their native thickets; and ought to be as remote from noise and interruption of company as possible, and strangers rarely allowed to disturb or even approach them.

The Mocking-bird is nine and a half inches long, and thirteen in breadth. Some individuals are, however, larger, and some smaller,

those of the first hatch being uniformly the biggest and stoutest.* The upper parts of the head, neck and back, are a dark, brownish ash; and when new moulted, a fine light gray; the wings and tail are nearly black, the first and second rows of coverts tipped with white; the primary coverts, in some males, are wholly white, in others tinged with brown. The three first primaries are white from their roots as far as their coverts; the white on the next six extends from an inch to one and three-fourths farther down, descending equally on both sides of the feather; the tail is cuneiform, the two exterior feathers wholly white, the rest, except the middle ones, tipped with white; the chin is white; sides of the neck, breast, belly and vent a brownish white, much purer in wild birds than in those that have been domesticated; iris of the eye yellowish cream colored, inclining to golden; bill black, the base of the lower mandible whitish; legs and feet black, and strong. The female very much resembles the male; what difference there is has been already pointed out in a preceding part of this account. The breast of the young bird is spotted like that of the Thrush.

Mr. William Bartram observes of the Mocking-bird, that "formerly, say thirty or forty years ago, they were numerous, and often stayed all winter with us, or the year through, feeding on the berries of ivy, smilax, grapes, persimmons, and other berries. The ivy (*Hedera helix*) they were particularly fond of, though a native of Europe. We have an ancient plant adhering to the wall of the house, covering many yards of surface; this vine is very fruitful, and here many would feed and lodge during the winter, and in very severe cold weather sit on the top of the chimney to warm themselves." He also adds, "I have observed that the Mocking-bird ejects from his stomach through his mouth the hard kernels of berries, such as smilax, grapes, &c., retaining the pulpy part."†

* Many people are of opinion that there are two sorts, the large and the small Mocking-bird; but after examining great numbers of these birds in various regions of the United States, I am satisfied that this variation of size is merely accidental, or owing to the circumstance above mentioned.

† Letter from Mr. Bartram to the author.

SPECIES II. *TURDUS RUFUS*.

FERRUGINOUS THRUSH.

[Plate XIV. Fig. 1.]

Fox-colored Thrush, CATESBY, I., 28.—*Turdus rufus*, LINN. *Syst.* 293.—LATH. III., 39.—*La Grive de la Caroline*, BRISS. II., 223.—*Le Moqueur François*, DE BUFF. III., 323, *Pl. Enl.* 645.—*Arct. Zool.* p. 335, No. 195.

THIS is the Brown Thrush, or Thrasher of the Middle and Eastern States ; and the French Mocking-bird of Maryland, Virginia, and the Carolinas. It is the largest of all our Thrushes, and is a well known and very distinguished songster. About the middle or twentieth of April, or generally about the time the cherry-trees begin to blossom, he arrives in Pennsylvania ; and from the tops of our hedge rows, sassafras, apple or cherry-trees, he salutes the opening morning with his charming song, which is loud, emphatical, and full of variety. At that serene hour you may plainly distinguish his voice full half a mile off. These notes are not imitative, as his name would import, and as some people believe, but seem solely his own ; and have considerable resemblance to the notes of the Song Thrush (*Turdus musicus*) of Britain. Early in May he builds his nest, choosing a thorn bush, low cedar, thicket of briars, dogwood sapling, or cluster of vines for its situation, generally within a few feet of the ground. Outwardly it is constructed of small sticks ; then layers of dry leaves ; and lastly lined with fine fibrous roots ; but without any plaster. The eggs are five, thickly sprinkled with ferruginous grains on a very pale bluish ground. They generally have two broods in a season. Like all birds that build near the ground, he shows great anxiety for the safety of his nest and young, and often attacks the black-snake in their defence, generally too with success ; his strength being greater and his bill stronger and more powerful than any other of his tribe within the United States. His food consists of worms, which he scratches from the ground, caterpillars, and many kinds of berries. Beetles and the whole race of coleopterous insects, wherever he can meet with them, are sure to suffer. He is accused, by some people, of scratching up the hills of Indian corn, in planting time ; this may be partly true ; but for every grain of maize he pilfers I am persuaded he destroys five hundred insects ; particularly a large dirty-colored grub, with a black head, which is more pernicious to the corn and other grain and vegetables, than nine-tenths of the whole feathered race. He is an

active, vigorous bird, flies generally low, from one thicket to another, with his long broad tail spread like a fan; is often seen about briar and bramble bushes, along fences; and has a single note or chuck, when you approach his nest. In Pennsylvania they are numerous, but never fly in flocks. About the middle of September, or as soon as they have well recovered from moulting, in which they suffer severely, they disappear for the season. In passing through the southern parts of Virginia, and south as far as Georgia, in the depth of winter, I found them lingering in sheltered situations, particularly on the border of swamps and rivers. On the first of March they were in full song round the commons at Savannah, as if straining to outstrip the Mocking-bird, that prince of feathered musicians.

The Thrasher is a welcome visitant in spring to every lover of rural scenery and rural song. In the months of April and May, when our woods, hedge-rows, orchard and cherry trees are one profusion of blossoms, when every object around conveys the sweet sensations of joy, and heaven's abundance is as it were showering around us, the grateful heart beats in unison with the varying elevated strains of this excellent bird; we listen to its notes with a kind of devotional ecstacy, as a morning hymn to the great and most adorable Creator of all. The human being who, amidst such scenes, and in such seasons of rural serenity and delight, can pass them with cold indifference, and even contempt, I sincerely pity; for abject must that heart be and callous those feelings, and depraved that taste, which neither the charms of nature, nor the melody of innocence, nor the voice of gratitude or devotion can reach.

This bird inhabits North America from Canada to the point of Florida. They are easily reared, and become very familiar when kept in cages; and though this is rarely done, yet I have known a few instances where they sung in confinement with as much energy as in their native woods. They ought frequently to have earth and gravel thrown in to them, and have plenty of water to bathe in.

The Ferruginous Thrush is eleven inches and a half long, and thirteen in extent; the whole upper parts are of a bright reddish brown; wings crossed with two bars of white, relieved with black; tips and inner vanes of the wings dusky; tail very long, rounded at the end, broad, and of the same reddish brown as the back; whole lower parts yellowish white; the breast, and sides under the wings, beautifully marked with long pointed spots of black, running in chains; chin white; bill very long and stout, not notched, the upper mandible overhanging the lower a little, and beset with strong bristles at the base, black above, and whitish below near the base; legs remarkably strong and of a dusky clay color; iris of the eye brilliant yellow. The female may be distinguished from the male by the white on the wing being much nar-

rower, and the spots on the breast less. In other respects their plumage is nearly alike.

Concerning the sagacity and reasoning faculty of this bird my venerable friend Mr. Bartram writes me as follows: "I remember to have reared one of these birds from the nest; which when full grown became very tame and docile. I frequently let him out of his cage to give him a taste of liberty; after fluttering and dusting himself in dry sand and earth, and bathing, washing and dressing himself, he would proceed to hunt insects, such as beetles, crickets, and other shelly tribes; but being very fond of wasps, after catching them and knocking them about to break their wings, he would lay them down, then examine if they had a sting, and with his bill squeeze the abdomen to clear it of the reservoir of poison, before he would swallow his prey. When in his cage, being very fond of dry crusts of bread, if upon trial the corners of the crumbs were too hard and sharp for his throat, he would throw them up, carry and put them in his water-dish to soften; then take them out and swallow them. Many other remarkable circumstances might be mentioned that would fully demonstrate faculties of *mind*; not only innate, but acquired ideas (derived from necessity in a state of domestication) which we call understanding and knowledge. We see that this bird could associate those ideas, arrange and apply them in a rational manner, according to circumstances. For instance, if he knew that it was the hard sharp corners of the crumb of bread that hurt his gullet, and prevented him from swallowing it, and that water would soften and render it easy to be swallowed, this knowledge must be acquired by observation and experience; or some other bird taught him. Here the bird perceived by the effect the cause, and then took the quickest, the most effectual, and agreeable method to remove that cause. What could the wisest man have done better? Call it reason, or instinct, it is the same that a sensible man would have done in this case.

"After the same manner this bird reasoned with respect to the wasps. He found, by experience and observation, that the first he attempted to swallow hurt his throat, and gave him extreme pain; and upon examination observed that the extremity of the abdomen was armed with a poisonous sting; and after this discovery, never attempted to swallow a wasp until he first pinched his abdomen to the extremity, forcing out the sting with the receptacle of poison."

It is certainly a circumstance highly honorable to the character of birds, and corroborative of the foregoing sentiments, that those who have paid the most minute attention to their manners are uniformly their advocates and admirers. "He must," said a gentleman to me the other day, when speaking of another person, "he must be a good man; for those who have long known him and are most intimate with him respect him greatly and always speak well of him."

SPECIES III. *TURDUS MELODUS*.*

WOOD THRUSH.

[Plate II. Fig. 1.]

BARTRAM, p. 290.

THIS bird is represented on the plate of its natural size; and particular attention has been paid to render the figure a faithful likeness of the original. It measures eight inches in length, and thirteen from tip to tip of the expanded wings; the bill is an inch long, the upper mandible of a dusky brown, bent at the point, and slightly notched; the lower a flesh color towards the base; the legs are long, and, as well as the claws, of a pale flesh color, or almost transparent. The whole upper parts are of a brown fulvous color brightening into reddish on the head, and inclining to an olive on the rump and tail; chin white; throat and breast white, tinged with a light buff color, and beautifully marked with pointed spots of black or dusky, running in chains from the sides of the mouth, and intersecting each other all over the breast to the belly, which, with the vent, is of a pure white; a narrow circle of white surrounds the eye, which is large, full, the pupil black, and the iris of a dark chocolate color; the inside of the mouth is yellow. The male and female of this species, as indeed of almost the whole genus of Thrushes, differ so little as scarcely to be distinguished from each other. It is called by some the Wood Robin, by others the Ground Robin, and by some of our American ornithologists *Turdus minor*, though, as will hereafter appear, improperly. The present name has been adopted from Mr. William Bartram, who seems to have been the first and almost only naturalist who has taken notice of the merits of this bird.

This sweet and solitary songster inhabits the whole of North America from Hudson's Bay to the peninsula of Florida. He arrives in Pennsylvania about the 20th of April, or soon after; and returns to the south about the beginning of October. The lateness or earliness of the season seems to make less difference in the times of arrival of our birds of

* *Turdus mustelinus*, Gmelin, which name must be adopted.—We add the following synonyms:—*T. mustelinus*, Gmel. *Syst.* i., p. 817.—Lath. *Syn.* iii., p. 28.—Vieill. *Ois de l'Am.* Sept. pl. 62.—Tawny Thrush, *Arct. Zool.* ii., p. 337. No. 198.

passage than is generally imagined. Early in April the woods are often in considerable forwardness, and scarce a summer bird to be seen. On the other hand vegetation is sometimes no farther advanced on the 20th of April, at which time (*e. g.* this present year 1807) numbers of Wood Thrushes are seen flitting through the moist woody hollows, and a variety of the *Motacilla* genus chattering from almost every bush, with scarce an expanded leaf to conceal them. But at whatever time the Wood Thrush may arrive, he soon announces his presence in the woods. With the dawn of the succeeding morning, mounting to the top of some tall tree that rises from a low thick-shaded part of the woods, he pipes his few but clear and musical notes in a kind of ecstasy; the prelude, or symphony to which, strongly resembles the double tonguing of a German flute, and sometimes the tinkling of a small bell; the whole song consists of five or six parts, the last note of each of which is in such a tone as to leave the conclusion evidently suspended; the finale is finely managed, and with such charming effect as to soothe and tranquillize the mind, and to seem sweeter and mellower at each successive repetition. Rival songsters, of the same species, challenge each other from different parts of the wood, seeming to vie for softer tones and more exquisite responses. During the burning heat of the day, they are comparatively mute; but in the evening the same melody is renewed, and continued long after sunset. Those who visit our woods, or ride out into the country at these hours, during the months of May and June, will be at no loss to recognise, from the above description, this pleasing musician. Even in dark, wet and gloomy weather, when scarce a single chirp is heard from any other bird, the clear notes of the Wood Thrush thrill through the dropping woods from morning to night; and it may truly be said that, the sadder the day the sweeter is his song.

The favorite haunts of the Wood Thrush are low, thick-shaded hollows, through which a small brook or rill meanders, overhung with alder bushes that are mantled with wild vines. Near such a scene he generally builds his nest, in a laurel or alder bush. Outwardly it is composed of withered beech leaves of the preceding year, laid at bottom in considerable quantities, no doubt to prevent damp and moisture from ascending through, being generally built in low wet situations; above these are layers of knotty stalks of withered grass, mixed with mud, and smoothly plastered, above which is laid a slight lining of fine black fibrous roots of plants. The eggs are four, sometimes five, of a uniform light blue, without any spots.

The Wood Thrush appears always singly or in pairs, and is of a shy retired unobtrusive disposition. With the modesty of true merit he charms you with his song, but is content and even solicitous to be concealed. He delights to trace the irregular windings of the brook, where by the luxuriance of foliage the sun is completely shut out, or only

plays in a few interrupted beams on the glittering surface of the water. He is also fond of a particular species of lichen which grows in such situations, and which, towards the fall, I have uniformly found in their stomachs; berries, however, of various kinds, are his principal food, as well as beetles and caterpillars. The feathers on the hind head are longer than is usual with birds which have no crest; these he sometimes erects; but this particular cannot be observed but on a close examination.

Those who have paid minute attention to the singing of birds know well, that the voice, energy, and expression, in the same tribe, differ as widely, as the voices of different individuals of the human species, or as one singer does from another. The powers of song in some individuals of the Wood Thrush have often surprised and delighted me. Of these I remember one, many years ago, whose notes I could instantly recognise on entering the woods, and with whom I had been as it were acquainted from his first arrival. The top of a large white-oak that overhung part of the glen, was usually the favorite pinnacle from whence he poured the sweetest melody; to which I had frequently listened till night began to gather in the woods; and the fire-flies to sparkle among the branches. But alas! in the pathetic language of the poet,

“One morn I missed him on the accustomed hill,
Along the vale, and on his favorite tree—
Another came, nor yet beside the rill,
Nor up the glen nor in the wood was he.”

A few days afterwards, passing along the edge of the rocks, I found fragments of the wings and broken feathers of a Wood Thrush killed by the Hawk, which I contemplated with unfeigned regret, and not without a determination to retaliate on the first of these murderers I could meet with.

That I may not seem singular in my estimation of this bird, I shall subjoin an extract of a letter from a distinguished American gentleman to whom I had sent some drawings, and whose name, were I at liberty to give it, would do honor to my humble performance, and render any further observations on the subject from me unnecessary.

“As you are curious in birds, there is one well worthy your attention, to be found, or rather heard, in every part of America, and yet scarcely ever to be seen. It is in all the forests from spring to fall, and never but on the tops of the tallest trees, from which it perpetually serenades us with some of the sweetest notes, and as clear as those of the Nightingale. I have followed it for miles without ever but once getting a good view of it. It is of the size and make of the Mocking-bird, lightly thrush-colored on the back, and a grayish white on the breast and belly. Mr. —, my son-in-law, was in possession of one which had been shot

by a neighbor, he pronounced it a *Muscicapa*, and I think it much resembles the *Moucherolle de la Martinique*, 8 Buffon 374, Pl. Enlum. 568. As it abounds in all the neighborhood of Philadelphia, you may, perhaps, by patience and perseverance (of which much will be requisite) get a sight, if not a possession of it. I have for twenty years interested the young sportsmen of my neighborhood to shoot me one; but as yet without success."

It may seem strange that neither Sloane,* Catesby, Edwards nor Buffon, all of whom are said to have described this bird, should say anything of its melody; or rather, assert that it had only a single cry or scream. This I cannot account for in any other way than by supposing, what I think highly probable, that this bird has never been figured or described by any of the above authors.

Catesby has, indeed, represented a bird, which he calls *Turdus minimus*,† but it is difficult to discover, either from the figure or description, what particular species is meant; or whether it be really intended for the Wood Thrush we are now describing. It resembles, he says, the English Thrush; but is less, never sings; has only a single note, and abides all the year in Carolina. It must be confessed that, except the first circumstance, there are few features of the Wood Thrush in this description. I have myself searched the woods of Carolina and Georgia, in winter, for this bird, in vain, nor do I believe that it ever winters in these states. If Mr. Catesby found his bird mute during spring and summer, it was not the Wood Thrush; otherwise he must have changed his very nature. But Mr. Edwards has also described and delineated the Little Thrush,‡ and has referred to Catesby as having drawn and engraved it before. Now this Thrush of Edwards I know to be really a different species; one not resident in Pennsylvania, but passing to the north in May, and returning the same way in October, and may be distinguished from the true Song Thrush (*Turdus melodus*) by the spots being much broader, brown, and not descending below the breast. It is also an inch shorter, with the cheeks of a bright tawny color. Mr. William Bartram, who transmitted this bird, more than fifty years ago, to Mr. Edwards, by whom it was drawn and engraved, examined the two species in my presence; and on comparing them with the one in Edwards, was satisfied that the bird there figured and described is not the Wood Thrush (*Turdus melodus*), but the tawny-cheeked species above mentioned. This species I have never seen in Pennsylvania but in spring and fall. It is still more solitary than the former, and utters, at rare times, a single cry, similar to that of a

* Hist. Jam. ii., 305.

† Catesby, Nat. Hist. Car. i., 31.

‡ Edwards, 296.

chicken which has lost its mother. This very bird I found numerous in the myrtle swamps of Carolina in the depth of winter, and I have not a doubt of its being the same which is described by Edwards and Catesby.

As the Count de Buffon has drawn his description from those above mentioned, the same observations apply equally to what he has said on the subject; and the fanciful theory which this writer had formed to account for its want of song, vanishes into empty air; viz., that, the Song Thrush of Europe (*Turdus musicus*) had, at some time after the creation, rambled round by the Northern Ocean, and made its way to America; that advancing to the south it had there (of consequence) become degenerated by change of food and climate, so that its cry is now harsh and unpleasant, "as are the cries of all birds that live in wild countries inhabited by savages."*

For a figure and description of this passenger Thrush see the following species.

SPECIES IV. *TURDUS SOLITARIUS*.†

HERMIT THRUSH.

[Plate XLIII. Fig. 2.]

Little Thrush, CATESBY, I., 31.—EDWARDS, 296.—*Brown Thrush*, Arch. Zool. 337, No. 199.

THE dark solitary cane and myrtle swamps of the Southern States are the favorite native haunts of this silent and recluse species, and the more deep and gloomy these are, the more certain we are to meet with this bird flitting among them. This is the species mentioned while treating of the Wood Thrush, as having been figured and described more than fifty years ago by Edwards, from a dried specimen sent him by my friend Mr. William Bartram, under the supposition that it was the Wood Thrush (*Turdus melodus*). It is however considerably less, very differently marked, and altogether destitute of the clear voice and musical powers of that charming minstrel. It also differs in remaining in the Southern States during the whole year; whereas the Wood Thrush does

* Buffon, vol. iii., 289. The figure in Pl. Enl. 398, has little or no resemblance to the Wood Thrush, being of a deep green olive above, and spotted to the very vent, with long streaks of brown.

† *Turdus minor*, Gmelin, which name having the priority must be adopted.

We add the following synonymes:—*T. minor*, Gm. Syst. I., p. 809.—LATH. Syn. III., p. 20, No. 5.—*Mauris de la Caroline*, BUFF. Pl. Ent. 556, fig. 2. *Turdus fuscus*, Gmel. Syst. I., p. 817.—LATH. Syn. III., p. 28, No. 16.

not winter even in Georgia; nor arrives within the southern boundary of that state until some time in April.

The Hermit Thrush is rarely seen in Pennsylvania, unless for a few weeks in spring and late in the fall, long after the Wood Thrush has left us; and when scarcely a summer bird remains in the woods. In both seasons it is mute, having only, in spring, an occasional squeak like that of a young stray chicken. Along the Atlantic coast in New Jersey they remain longer and later, as I have observed them there late in November. In the cane swamps of the Choctaw nation they were frequent in the month of May, on the twelfth of which I examined one of their nests on a horizontal branch immediately over the path. The female was sitting, and left it with great reluctance, so that I had nearly laid my hand on her before she flew. The nest was fixed on the upper part of the body of the branch, and constructed with great neatness; but without mud or plaster, contrary to the custom of the Wood Thrush. The outside was composed of a considerable quantity of coarse rooty grass, intermixed with horse-hair, and lined with a fine green colored, thread-like grass, perfectly dry, laid circularly with particular neatness. The eggs were four, of a pale greenish blue, marked with specks and blotches of olive, particularly at the great end. I also observed this bird on the banks of the Cumberland river in April. Its food consists chiefly of berries, of which these low swamps furnish a perpetual abundance, such as those of the holly, myrtle, gall bush (a species of *vaccinium*), yapon shrub, and many others.

A superficial observer would instantly pronounce this to be only a variety of the Wood Thrush; but taking into consideration its difference of size, color, manners, want of song, secluded habits, differently formed nest, and spotted eggs, all unlike those of the former, with which it never associates, it is impossible not to conclude it to be a distinct and separate species, however near it may approach to that of the former. Its food, and the country it inhabits for half the year, being the same, neither could have produced those differences; and we must believe it to be now, what it ever has and ever will be, a distinct connecting link in the great chain of this part of animated nature; all the sublime reasoning of certain theoretical closet philosophers to the contrary notwithstanding.

Length of the Hermit Thrush seven inches, extent ten inches and a half; upper parts plain deep olive brown, lower dull white; upper part of the breast and throat dull cream color, deepest where the plumage falls over the shoulders of the wing, and marked with large dark brown pointed spots; ear feathers and line over the eye cream, the former mottled with olive; edges of the wings lighter, tips dusky; tail coverts and tail inclining to a reddish fox color. In the Wood Thrush these parts incline to greenish olive. Tail slightly forked; legs dusky; bill

black above and at the tip, whitish below; iris black and very full; chin whitish.

The female differs very little, chiefly in being generally darker in the tints, and having the spots on the breast larger and more dusky.

SPECIES V. *TURDUS MUSTELINUS*.

TAWNY THRUSH.

[Plate XLIII. Fig. 3.]

THIS species makes its appearance in Pennsylvania from the south regularly about the beginning of May, stays with us a week or two, and passes on to the north and to the high mountainous districts to breed. It has no song, but a sharp chuck. About the twentieth of May I met with numbers of them in the great Pine swamp, near Pocano; and on the twenty-fifth of September, in the same year, I shot several of them in the neighborhood of Mr. Bartram's place. I have examined many of these birds in spring, and also on their return in fall, and found very little difference among them between the male and female. In some specimens the wing coverts were brownish yellow; these appeared to be young birds. I have no doubt but they breed in the northern high districts of the United States; but I have not yet been able to discover their nests.

The Tawny Thrush is ten inches long, and twelve inches in extent; the whole upper parts are a uniform tawny brown; the lower parts white: sides of the breast and under the wings slightly tinged with ash; chin white; throat and upper parts of the breast cream colored, and marked with pointed spots of brown; lores pale ash, or bluish white; cheeks dusky brown; tail nearly even at the end, the shafts of all, as well as those of the wing quills, continued a little beyond their webs; bill black above and at the point, below at the base flesh colored; corners of the mouth yellow; eye large and dark, surrounded with a white ring; legs long, slender and pale brown.

Though I have given this bird the same name that Mr. Pennant has applied to one of our Thrushes, it must not be considered as the same; the bird which he has denominated the *Tawny Thrush* being evidently from its size, markings, &c.

No description of the bird here figured, has, to my knowledge, appeared in any former publication.*

* As Wilson supposed, this bird had not been previously described; he has however created some confusion by giving to it the name of an old species. That name

SPECIES VI. *TURDUS AQUATICUS*.*

WATER THRUSH.

[Plate XXIII. Fig. 5.]

THIS bird is remarkable for its partiality to brooks, rivers, shores, ponds, and streams of water; wading in the shallows in search of aquatic insects, wagging the tail almost continually, chattering as it flies, and, in short, possesses many strong traits and habits of the Water Wagtail. It is also exceedingly shy, darting away on the least attempt to approach it, and uttering a sharp chip, repeatedly, as if greatly alarmed. Among the mountain streams in the state of Tennessee, I found a variety of this bird pretty numerous, with legs of a bright yellow color; in other respects it differed not from the rest. About the beginning of May it passes through Pennsylvania to the north; is seen along the channels of our solitary streams for ten or twelve days; afterwards disappears until August. It is probable that it breeds in the higher mountainous districts even of this state, as do many other of our spring visitants that regularly pass a week or two with us in the lower parts, and then retire to the mountains and inland forests to breed.

But Pennsylvania is not the favorite resort of this species. The cane-brakes, swamps, river shores, and deep watery solitudes of Louisiana, Tennessee, and the Mississippi Territory, possess them in abundance; there they are eminently distinguished by the loudness, sweetness and expressive vivacity of their notes, which begin very high and clear,

(*mustelinus*) must be restored to the bird to which it was originally applied, the *Wood Thrush*, and the *Turdus Wilsonii* as proposed by Prince Musignano, be adopted for this.

Synonymes: *T. Wilsonii*, BONAPARTE, *Obs. Journ. Acad. Nat. Sc.* vol. iv., p. 34.—*Id. Synop. Annales Lyc. Nat. Hist.* vol. ii., p. 75.

* Prince Musignano asserts that this is the *Sylvia noveboracensis*, LATHAM, and quotes the following synonymes:—*MOTACILLA noveboracensis*, GMEL.—*SYLVIA noveboracensis*, LATH.—VIEILL. pl. 82.—*MOTACILLA tigrina*, var. β , GMEL. female and young.—*SYLVIA tigrina*, var. β , LATH. female and young.—*SYLVIA anthoides*, VIEILL. *Nouv. Dict. d'Hist. Nat.*—*FICEDULA dominicensis fusca*, BRISS. female and young.—*Fauvette tachetée de la Louisiane*, BUFF. *Pl. Enl.* 752, f. 1, a very bad figure.—*New York warbler*, PENN. *Arct. Zool.*—LATH. *Syn.*

It resembles in habits and appearance, and is we believe, also, the *Turdus motacilla* of VIEILLLOT, pl. 65.

falling with an almost imperceptible gradation till they are scarcely articulated. At these times the musician is perched on the middle branches of a tree over the brook or river bank, pouring out his charming melody, that may be distinctly heard for nearly half a mile.

The voice of this little bird appeared to me so exquisitely sweet and expressive, that I was never tired of listening to it, while traversing the deep shaded hollows of those cane-brakes where it usually resorts. I have never yet met with its nest.

The Water Thrush is six inches long, and nine and a half in extent; the whole upper parts are of a uniform and very dark olive, with a line of white extending over the eye, and along the sides of the neck; the lower parts are white, tinged with yellow ochre; the whole breast and sides are marked with pointed spots or streaks of black or deep brown; bill dusky brown; legs flesh-colored; tail nearly even; bill formed almost exactly like the Golden-crowned Thrush (*Turdus aurocapillus*), and except in frequenting the water, much resembling it in manners. Male and female nearly alike.

SPECIES VII. *TURDUS AUROCAPILLUS*.

GOLDEN-CROWNED THRUSH.

[Plate XIV. Fig. 2.]

EDW. 252.—LATH. III., 21.—*La figuier à tête d'or*, BRISS. III., 504.—*La Grivelette de St. Dominique*, BUFF. III., 317, *Pl. Enl.* 398.—*Arct. Zool.* p. 339, No. 203.—*Turdus minimus, vertice Aurio, the least Golden-crown Thrush*, BARTRAM, p. 290.

THOUGH the epithet *golden-crowned*, is not very suitable for this bird, that part of the head being rather of a brownish orange, yet, to avoid confusion, I have retained it.

This is also a migratory species, arriving in Pennsylvania late in April, and leaving us again late in September. It is altogether an inhabitant of the woods, runs along the ground like a lark, and even along the horizontal branches, frequently moving its tail in the manner of the Wagtails. It has no song; but a shrill, energetic twitter, formed by the rapid reiteration of two notes, *peche, peche, peche*, for a quarter of a minute at a time. It builds a snug, somewhat singular nest, on the ground, in the woods, generally on a declivity facing the south. This is formed of leaves and dry grass, and lined with hair. Though sunk below the surface, it is arched over, and only a small hole left for entrance; the eggs are four, sometimes five, white, irregularly spotted

with reddish brown, chiefly near the great end. When alarmed it escapes from the nest with great silence and rapidity, running along the ground like a mouse, as if afraid to tread too heavily on the leaves; if you stop to examine its nest, it also stops, droops its wings, flutters and tumbles along, as if hardly able to crawl, looking back now and then to see whether you are taking notice of it. If you slowly follow, it leads you fifty or sixty yards off, in a direct line from its nest, seeming at every advance to be gaining fresh strength; and when it thinks it has decoyed you to a sufficient distance, it suddenly wheels off and disappears. This kind of deception is practised by many other species of birds that build on the ground; and is sometimes so adroitly performed as actually to have the desired effect of securing the safety of its nest and young.

This is one of those birds frequently selected by the Cowpen Bunting to be the foster-parent of its young. Into the nest of this bird the Cow Bird deposits its egg, and leaves the result to the mercy and management of the Thrush, who generally performs the part of a faithful and affectionate nurse to the foundling.

The Golden-crowned Thrush is six inches long, and nine in extent; the whole upper parts, except the crown and hind head, are a rich yellow olive; the tips of the wings and inner vanes of the quills, are dusky brown; from the nostrils a black strip passes to the hind head on each side, between which lies a bed of brownish orange; the sides of the neck are whitish; the whole lower parts white, except the breast, which is handsomely marked with pointed spots of black, or deep brown, as in the figure; round the eye is a narrow ring of yellowish white; legs pale flesh color; bill dusky above, whitish below. The female has the orange on the crown considerably paler.

This bird might with propriety be ranged with the Wagtails, its notes, manners, and habit of building on the ground being similar to these. It usually hatches twice in the season; feeds on small bugs, and the larvæ of insects, which it chiefly gathers from the ground. It is very generally diffused over the United States; and winters in Jamaica, Hispaniola, and other islands of the West Indies.

SPECIES VIII. *TURDUS LIVIDUS*.

C A T - B I R D.

[Plate XIV. Fig. 3.]

Muscicapa Carolinensis, LINN. *Syst.* 328.—*Le gobe-mouche brun de Virginie*, BRISS. II., 365.—*Cat-bird*, CATESB. I., 66.—LATHAM, II., 353.—*Le moucherolle de Virginie*, BUFF. IV., 562.—*Lucar lividus, apice nigra, the Cat-bird, or Chicken-bird*, BARTRAM, p. 290.

WE have here before us a very common and very numerous species, in this part of the United States; and one as well known to all classes of people, as his favorite briars, or blackberry bushes. In spring or summer, on approaching thickets of brambles, the first salutation you receive is from the Cat-bird; and a stranger, unacquainted with its note, would instantly conclude that some vagrant orphan kitten had got bewildered among the briars, and wanted assistance; so exactly does the call of the bird resemble the voice of that animal. Unsuspicious, and extremely familiar, he seems less apprehensive of man than almost any other of our summer visitants; for whether in the woods, or in the garden, where he frequently builds his nest, he seldom allows you to pass without approaching to pay his respects, in his usual way. This humble familiarity and deference, from a stranger too, who comes to rear his young, and spend the summer with us, ought to entitle him to a full share of our hospitality. Sorry I am, however, to say, that this, in too many instances, is cruelly the reverse. Of this I will speak more particularly in the sequel.

About the twenty-eighth of February the Cat-bird first arrives in the lower parts of Georgia from the south, consequently winters not far distant, probably in Florida. On the second week in April he usually reaches this part of Pennsylvania; and about the beginning of May has already succeeded in building his nest. The place chosen for this purpose is generally a thicket of briars or brambles, a thorn bush, thick vine or the fork of a small sapling; no great solicitude is shown for concealment; though few birds appear more interested for the safety of their nest and young. The materials are dry leaves and weeds, small twigs and fine dry grass, the inside is lined with the fine black fibrous roots of some plant. The female lays four, sometimes five eggs, of a uniform greenish blue color, without any spots. They generally raise two, and sometimes three broods in a season.

In passing through the woods in summer I have sometimes amused myself with imitating the violent chirping or squeaking of young birds, in order to observe what different species were around me, for such sounds, at such a season in the woods, are no less alarming to the feathered tenants of the bushes than the cry of fire or murder in the streets, is to the inhabitants of a large and populous city. On such occasions of alarm and consternation, the Cat-bird is the first to make his appearance, not singly, but sometimes half a dozen at a time, flying from different quarters to the spot. At this time those who are disposed to play with his feelings may almost throw him into fits, his emotion and agitation are so great, at the distressful cries of what he supposes to be his suffering young. Other birds are variously affected; but none show symptoms of such extreme suffering. He hurries backwards and forwards, with hanging wings and open mouth, calling out louder and faster, and actually screaming with distress, till he appears hoarse with his exertions. He attempts no offensive means; but he bewails, he implores, in the most pathetic terms with which nature has supplied him, and with an agony of feeling which is truly affecting. Every feathered neighbor within hearing hastens to the place to learn the cause of the alarm, peeping about with looks of consternation and sympathy. But their own powerful parental duties and domestic concerns soon oblige each to withdraw. At any other season, the most perfect imitations have no effect whatever on him.

The Cat-bird will not easily desert its nest. I took two eggs from one which was sitting, and in their place put two of the Brown Thrush, or Thrasher; and took my stand at a convenient distance to see how she would behave. In a minute or two the male made his approaches, stooped down and looked earnestly at the strange eggs; then flew off to his mate, who was not far distant, with whom he seemed to have some conversation, and instantly returning, with the greatest gentleness took out both the Thrasher's eggs, first one and then the other, carried them singly about thirty yards, and dropped them among the bushes. I then returned the two eggs I had taken, and soon after the female resumed her place on the nest as before.

From the nest of another Cat-bird I took two half fledged young, and placed them in that of another which was sitting on five eggs. She soon turned them both out. The place where the nest was, not being far from the ground, they were little injured, and the male observing their helpless situation, began to feed them with great assiduity and tenderness.

I removed the nest of a Cat-bird, which contained four eggs, nearly hatched, from a fox-grape vine, and fixed it firmly and carefully in a thicket of briars close by, without injuring its contents. In less than half an hour I returned, and found it again occupied by the female

The Cat-bird is one of our earliest morning songsters, beginning generally before break of day, and hovering from bush to bush, with great sprightliness, when there is scarce light sufficient to distinguish him. His notes are more remarkable for singularity than for melody. They consist of short imitations of other birds, and other sounds; but his pipe being rather deficient in clearness and strength of tone, his imitations fail where these are requisite. Yet he is not easily discouraged, but seems to study certain passages with great perseverance; uttering them at first low, and as he succeeds, higher and more free; no ways embarrassed by the presence of a spectator even within a few yards of him. On attentively listening for some time to him one can perceive considerable variety in his performance, in which he seems to introduce all the odd sounds and quaint passages he has been able to collect. Upon the whole, though we cannot arrange him with the grand leaders of our vernal choristers, he well merits a place among the most agreeable *general* performers.

This bird, as has been before observed, is very numerous in summer, in the Middle States. Scarcely a thicket in the country is without its Cat-birds; and were they to fly in flocks, like many other birds, they would darken the air with their numbers. But their migrations are seldom observed, owing to their *gradual* progress and recession, in spring and autumn, to and from their breeding places. They enter Georgia late in February; and reach New England about the beginning of May. In their migrations they keep pace with the progress of agriculture; and the first settlers in many parts of the Genesee country have told me, that it was several years after they removed there before the Cat-bird made his appearance among them. With all these amiable qualities to recommend him few people in the country respect the Cat-bird. On the contrary, it is generally the object of dislike; and the boys of the United States entertain the same prejudice and contempt for this bird, its nest and young, as those of Britain do for the Yellow Hammer and its nest, eggs and young. I am at a loss to account for this cruel prejudice. Even those by whom it is entertained, can scarcely tell you *why*; only they "hate Cat-birds;" as some persons tell you they hate Frenchmen, they hate Dutchmen, &c., expressions that bespeak their own narrowness of understanding, and want of liberality. Yet, after ruminating over in my own mind all the probable causes, I think I have at last hit on some of them; the principal of which seems to me to be a certain similarity of taste, and clashing of interest, between the Cat-bird and the farmer. The Cat-bird is fond of large ripe garden strawberries; so is the farmer, for the good price they bring in market. The Cat-bird loves the best and richest early cherries; so does the farmer, for they are sometimes the most profitable of his early fruit. The Cat-bird has a particular partiality for the finest ripe mellow

pears ; and these are also particular favorites with the farmer. But the Cat-bird has frequently the advantage of the farmer by snatching off the *first-fruits* of these delicious productions ; and the farmer takes revenge by shooting him down with his gun, as he finds old hats, wind-mills and scarecrows are no impediments in his way to these forbidden fruits ; and nothing but this resource, the *ultimatum* of farmers as well as kings, can restrain his visits. The boys are now set to watch the cherry trees with the gun ; and thus commences a train of prejudices and antipathies that commonly continue through life. Perhaps, too, the common note of the Cat-bird, so like the mewing of the animal whose name it bears, and who itself sustains no small share of prejudice, the homeliness of his plumage, and even his familiarity, so proverbially known to beget contempt, may also contribute to this mean, illiberal and persecuting prejudice ; but with the generous and the good, the lovers of nature and of rural charms, the confidence which this familiar bird places in man by building in his garden, under his eye, the music of his song, and the interesting playfulness of his manners, will always be more than a recompense for all the little stolen morsels he snatches.

The Cat-bird measures nine inches in length ; at a small distance he appears nearly black ; but on a closer examination is of a deep slate color above, lightest on the edges of the primaries, and of a considerably lighter slate color below, except the under tail coverts, which are very dark red ; the tail, which is rounded, and upper part of the head, as well as the legs and bill, are black. The female differs little in color from the male. Latham takes notice of a bird exactly resembling this, being found at Kamtschatka ; only it wanted the red under the tail : probably it might have been a young bird, in which the red is scarcely observable.

This bird has been very improperly classed among the Fly-Catchers. As he never seizes his prey on wing, has none of their manners, feeds principally on fruit, and seems to differ so little from the Thrushes, I think he more properly belongs to the latter tribe than to any other genus we have. His bill, legs and feet, place and mode of building, the color of the eggs, his imitative notes, food and general manners, all justify me in removing him to this genus.

The Cat-bird is one of those unfortunate victims, and indeed the principal, against which credulity and ignorance have so often directed the fascinating quality of the blacksnake. A multitude of marvellous stories have been told me by people who have themselves *seen* the poor Cat-birds drawn, or sucked, as they sometimes express it, from the tops of the trees (which, by-the-bye, the Cat-bird rarely visits) one by one, into the yawning mouth of the immovable snake. It has so happened with me that in all the adventures of this kind that I have personally

witnessed, the Cat-bird was actually the assailant, and always the successful one. These rencontres never take place but during the breeding time of birds; for whose eggs and young the snake has a particular partiality. It is no wonder that those species whose nests are usually built near the ground, should be the greatest sufferers, and the most solicitous for their safety; hence the cause why the Cat-bird makes such a distinguished figure in most of these marvellous narrations. That a poisonous snake will strike a bird or mouse, and allow it to remain till nearly expiring before he begins to devour it, our observations on the living rattlesnake kept by Mr. Peale, satisfy us is a fact; but that the same snake, with eyes, breath, or any other known quality he possesses, should be capable of drawing a bird, reluctantly, from the tree tops to its mouth, is an absurdity too great for me to swallow.

I am led to these observations by a note which I received this morning from my worthy friend Mr. Bartram. "Yesterday," says this gentleman, "I observed a conflict, or contest, between a Cat-bird and a snake. It took place in a gravel walk, in the garden, near a dry wall of stone. I was within a few yards of the combatants. The bird pounced or darted upon the snake, snapping his bill; the snake would then draw himself quickly into a coil, ready for a blow; but the bird would cautiously circumvent him at a little distance, now and then running up to and snapping at him; but keeping at a sufficient distance to avoid a blow. After some minutes it became a running fight, the snake retreating; and at last took shelter in the wall. The Cat-bird had young ones in the bushes near the field of battle.

"This may show the possibility of poisonous snakes biting birds, the operation of the poison causing them to become as it were fascinated."

SPECIES IX. *TURDUS MIGRATORIUS.*

ROBIN.

[Plate II. Fig. 2.]

LINN. *Syst.* I., p. 292, 6.—*Turdus Canadensis*, BRISS. II., p. 225, 9.—*La Litorne de Canada*, BUFF. III., p. 307.—*Grive de Canada*, *Pl. Enl.* 556, 1.—*Fieldfare of Carolina*, CAT. *Car.* 1, 29.—*Red-breasted Thrush*, *Arct. Zool.* II., No. 196.—LATH. *Syn.* II., p. 26.—BARTRAM, p. 290.

THIS well known bird, being familiar to almost every body, will require but a short description. It measures nine inches and a half in length; the bill is strong, an inch long, and of a full yellow, though sometimes black, or dusky near the tip of the upper mandible; the head, back of the neck and tail is black; the back and rump an ash color; the wings are black edged with light ash; the inner tips of the two exterior tail feathers are white; three small spots of white border the eye; the throat and upper part of the breast is black, the former streaked with white; the whole of the rest of the breast, down as far as the thighs, is of a dark orange; belly and vent white, slightly waved with dusky ash; legs dark brown; claws black and strong. The colors of the female are more of the light ash, less deepened with black; and the orange on the breast is much paler, and more broadly skirted with white. The name of this bird bespeaks him a bird of passage, as are all the different species of Thrushes we have; but the one we are now describing being more unsettled, and continually roving about from one region to another, during fall and winter, seems particularly entitled to the appellation. Scarce a winter passes but innumerable thousands of them are seen in the lower parts of the whole Atlantic states, from New Hampshire to Carolina, particularly in the neighborhood of our towns; and from the circumstance of their leaving, during that season, the country to the north-west of the great range of the Alleghany, from Maryland northward, it would appear that they not only migrate from north to south, but from west to east, to avoid the deep snows that generally prevail on these high regions for at least four months in the year.

The Robin builds a large nest, often on an apple tree, plasters it in the inside with mud, and lines it with hay or fine grass. The female lays five eggs of a beautiful sea green. Their principal food is berries, worms and caterpillars. Of the first he prefers those of the sour gum

(*Nyssa sylvatica*). So fond are they of gum berries, that wherever there is one of these trees covered with fruit, and flocks of Robins in the neighborhood, the sportsman need only take his stand near it, load, take aim, and fire; one flock succeeding another with little interruption, almost the whole day; by this method prodigious slaughter has been made among them with little fatigue. When berries fail they disperse themselves over the fields, and along the fences, in search of worms and other insects. Sometimes they will disappear for a week or two, and return again in greater numbers than before; at which time the cities pour out their sportsmen by scores, and the markets are plentifully supplied with them at a cheap rate. In January 1807, two young men, in one excursion after them, shot thirty dozen. In the midst of such devastation, which continued many weeks, and by accounts extended from Massachusetts to Maryland, some humane person took advantage of a circumstance common to these birds in winter, to stop the general slaughter. The fruit called poke-berries (*Phytolacca decandra*, Linn.) is a favorite repast with the Robin, after they are mellowed by the frost. The juice of the berries is of a beautiful crimson, and they are eaten in such quantities by these birds, that their whole stomachs are strongly tinged with the same red color. A paragraph appeared in the public papers, intimating, that from the great quantities of these berries which the Robins had fed on, they had become unwholesome, and even dangerous food; and that several persons had suffered by eating of them. The strange appearance of the bowels of the birds seemed to corroborate this account. The demand for, and use of them ceased almost instantly; and motives of self-preservation produced at once what all the pleadings of humanity could not effect.* When fat they are in considerable esteem for the table, and probably not inferior to the *turdi* of the ancients, which they bestowed so much pains on in feeding and fattening. The young birds are frequently and easily raised, bear the confinement of the cage, feed on bread, fruits, &c., sing well, readily learn to imitate parts of tunes, and are very pleasant and cheerful domestics. In these I have always observed that the orange on the breast is of a much deeper tint, often a dark mahogany or chestnut color, owing no doubt to their food and confinement.

The Robin is one of our earliest songsters; even in March, while snow yet dapples the fields, and flocks of them are dispersed about, some few will mount a post or stake of the fence, and make short and

* Governor Drayton, in his "View of South Carolina," p. 86, observes that "the Robins in winter devour the berries of the Bead tree (*Melia Azedarach*), in such large quantities, that after eating of them they are observed to fall down, and are readily taken. This is ascribed more to distension from abundant eating than from any deleterious qualities of the plant." The fact, however, is, that they are literally choked, many of the berries being too large to be swallowed.

frequent attempts at their song. Early in April, they are only to be seen in pairs, and deliver their notes with great earnestness, from the top of some tree detached from the woods. This song has some resemblance to, and indeed is no bad imitation of the notes of the Thrush or Thrasher (*Turdus rufus*); but if deficient in point of execution, he possesses more simplicity; and makes up in zeal what he wants in talent; so that the notes of the Robin, in spring, are universally known, and as universally beloved. They are as it were the prelude to the grand general concert, that is about to burst upon us from woods, fields and thickets, whitened with blossoms, and breathing fragrance. By the usual association of ideas, we therefore listen with more pleasure to this cheerful bird than to many others possessed of far superior powers, and much greater variety. Even his nest is held more sacred among schoolboys than that of some others; and while they will exult in plundering a Jay's or a Cat-bird's, a general sentiment of respect prevails on the discovery of a Robin's. Whether he owes not some little of this veneration to the well known and long established character of his namesake in Britain, by a like association of ideas, I will not pretend to determine. He possesses a good deal of his suavity of manners; and almost always seeks shelter for his young in summer, and subsistence for himself in the extremes of winter, near the habitations of man.

The Robin inhabits the whole of North America from Hudson's Bay to Nootka Sound, and as far south as Georgia, though they rarely breed on this side the mountains farther south than Virginia. Mr. Forster says, that about the beginning of May they make their appearance in pairs at the settlements of Hudson's Bay, at Severn river; and adds, a circumstance altogether unworthy of belief, viz. that at Moose Fort they build, lay and hatch in fourteen days! but that at the former place, four degrees more north, they are said to take twenty-six days.* They are also common in Newfoundland, quitting these northern parts in October. The young during the first season are spotted with white on the breast, and at that time have a good deal of resemblance to the Fieldfare of Europe.

Mr. Hearne informs us, that the Red-breasted Thrushes, are commonly called at Hudson's Bay the Red-birds; by some the Blackbirds, on account of their note; and by others the American Fieldfares. That they make their appearance at Churchill river about the middle of May, and migrate to the south early in the fall. They are seldom seen there but in pairs; and are never killed for their flesh except by the Indian boys.†

Several authors have asserted, that the Red-Breasted Thrush cannot

* Phil. Trans. lxi., 399.

† Journey to the Northern Ocean, p. 418, quarto. Lond. 1795.

brook the confinement of the cage; and never sings in that state. But, except the Mocking-bird (*Turdus polyglottos*), I know of no native bird which is so frequently domesticated, agrees better with confinement, or sings in that state more agreeably than the Robin. They generally suffer severely in moulting time, yet often live to a considerable age. A lady who resides near Tarrytown, on the banks of the Hudson, informed me, that she raised, and kept one of these birds for seventeen years; which sung as well, and looked as sprightly, at that age as ever; but was at last unfortunately destroyed by a cat. The morning is their favorite time for song. In passing through the streets of our large cities, on Sunday, in the months of April and May, a little after daybreak, the general silence which usually prevails without at that hour, will enable you to distinguish every house where one of these songsters resides, as he makes it then ring with his music.

Not only the plumage of the Robin, as of many other birds, is subject to slight periodical changes of color, but even the legs, feet, and bill: the latter, in the male, being frequently found tipped and ridged for half its length with black. In the depth of winter their plumage is generally best; at which time the full grown bird, in his most perfect dress, appears as exhibited in the plate.

GENUS XXXIII. AMPELIS. CHATTERER.

SPECIES. *A. AMERICANA*.*

CEDAR-BIRD.

[Plate VII. Fig. 1.]

Ampelis garrulus, LINN. *Syst.* I., 297, 1. β .—*Bombycilla Carolinensis*, BRISSON II., 337, 1. *Id.* 8vo. I., 251.—*Chatterer of Carolina*, CATESB. I., 46.—*Arct. Zool.* II., No. 207.—LATH. *Syn.* III., 93, 1. *A.*—EDW. 242.—COOK'S *Last Voyage*, II., 518.—ELLIS'S *Voyage*, II., 13.

THE figure of the Cedar-bird which accompanies this description was drawn from a very beautiful specimen; and exhibits the form of its crest when erected, which gives it so gay and elegant an appearance. At pleasure it can lower and contract this so closely to its head and neck, as not to be observed. The plumage of these birds is of an exquisitely

* This species does not belong to the genus *Ampelis* as at present restricted, but to the genus *Bombycilla* of Brisson, adopted by most modern Ornithologists.

Brisson's specific name, *Carolinensis*, having the priority, must be adopted for this bird.

Wilson was wrong in quoting *Ampelis garrulus*, LINN., as a synonyme.

fine and silky texture, lying extremely smooth and glossy. Notwithstanding the name *Chatterers* given to them, they are perhaps the most silent species we have; making only a feeble, lisping sound, chiefly as they rise or alight. They fly in compact bodies, of from twenty to fifty; and usually alight so close together on the same tree, that one half are frequently shot down at a time. In the months of July and August, they collect together in flocks, and retire to the hilly parts of the state, the Blue Mountains and other collateral ridges of the Alleghany, to enjoy the fruit of the *Vaccinium uliginosum*, whortle-berries, which grow there in great abundance; whole mountains, for many miles, being almost entirely covered with them; and where in the month of August I have myself found the Cedar-birds numerous. In October they descend to the lower cultivated parts of the country, to feed on the berries of the sour gum, and red cedar, of which last they are immoderately fond; and thirty or forty may sometimes be seen fluttering among the branches of one small cedar tree, plucking off the berries. They are also found as far south as Mexico, as appears from the accounts of Fernandez, Seba, and others.* Fernandez saw them near Tetzeuco, and calls them *Coquantotl*; says they delight to dwell in the mountainous parts of the country; and that their flesh and song are both indifferent.† Most of our epicures here, are, however, of a different opinion, as to their palatableness; for in the fall, and beginning of summer, when they become very fat, they are in considerable esteem for the table; and great numbers are brought to the market of Philadelphia, where they are sold from twelve to twenty-five cents per dozen. During the whole winter and spring they are occasionally seen; and about the twenty-fifth of May appear in numerous parties, making great havoc among the early cherries, selecting the best and ripest of the fruit. Nor are they easily intimidated by the presence of Mr. Scarecrow; for I have seen a flock deliberately feasting on the fruit of a loaded cherry tree, while on the same tree one of these *guardian angels*, and a very formidable one too, stretched his stiffened arms, and displayed his dangling legs, with all the pomposity of authority! At this time of the season most of our resident birds, and many of our summer visitants, are sitting, or have young; while even on the first of June, the eggs in the ovary of the female Cedar-bird are no larger than mustard seed; and it is generally the eighth or tenth of that month before they begin to build. These last are curious circumstances, which it is difficult to account for, unless by supposing, that incubation is retarded by a scarcity of suitable food in spring; berries and other fruit being their usual

* The figure of this bird in Seba's voluminous work is too wretched for criticism; it is there called "Oiseau Xomotl d'Amerique huppee." Seb. II., p. 66, t. 65, fig. 5.

† Hist. Av. Nov. Hisp. 55.

fare. In May, before the cherries are ripe, they are lean, and little else is found in their stomachs than a few shrivelled cedar berries, the refuse of the former season, and a few fragments of beetles and other insects, which do not appear to be their common food; but in June, while cherries and strawberries abound, they become extremely fat: and about the tenth or twelfth of that month, disperse over the country in pairs to breed: sometimes fixing on the cedar, but generally choosing the orchard for that purpose. The nest is large for the size of the bird, fixed in the forked or horizontal branch of an apple tree, ten or twelve feet from the ground; outwardly, and at bottom, is laid a mass of coarse dry stalks of grass, and the inside is lined wholly with very fine stalks of the same material. The eggs are three or four, of a dingy bluish white, thick at the great end, tapering suddenly, and becoming very narrow at the other; marked with small roundish spots of black of various sizes and shades; and the great end is of a pale dull purple tinge, marked likewise with touches of various shades of purple and black. About the last week in June the young are hatched, and are at first fed on insects and their larvæ; but as they advance in growth, on berries of various kinds. These facts I have myself been an eye witness to. The female, if disturbed, darts from the nest in silence to a considerable distance; no notes of wailing or lamentation are heard from either parent, nor are they even seen, notwithstanding you are in the tree examining the nest and young. These nests are less frequently found than many others; owing not only to the comparatively few numbers of the birds, but to the remarkable muteness of the species. The season of love, which makes almost every other small bird musical, has no such effect on them; for they continue at that interesting period as silent as before.

This species is also found in Canada, where it is called *Recollet*, probably, as Dr. Latham supposes, from the color and appearance of its crest resembling the hood of an order of friars of that denomination; it has also been met with by several of our voyagers on the north-west coast of America, and appears to have an extensive range.

Almost all the ornithologists of Europe persist in considering this bird as a variety of the European Chatterer (*A. garrulus*), with what justice or propriety, a mere comparison of the two will determine. The European species is very nearly twice the cubic bulk of ours; has the whole lower parts of an uniform dark vinous bay; the tips of the wings streaked with lateral bars of yellow; the nostrils covered with bristles;* the feathers on the chin loose and tufted; the wings black; and the markings of white and black on the sides of the head different from the American, which is as follows:—Length seven inches, extent eleven inches; head, neck, breast, upper part of the back, and wing-coverts, a

* Turton.

dark fawn color; darkest on the back, and brightest on the front; head ornamented with a high pointed almost upright crest; line from the nostril over the eye to the hind head velvety black, bordered above with a fine line of white, and another line of white passes from the lower mandible; chin black, gradually brightening into fawn color, the feathers there lying extremely close; bill black, upper mandible nearly triangular at the base, without bristles, short, rounding at the point, where it is deeply notched; the lower scolloped at the tip and turning up; tongue, as in the rest of the genus, broad, thin, cartilaginous, and lacerated at the end; belly yellow; vent white; wings deep slate, except the two secondaries next the body, whose exterior vanes are of a fawn color, and interior ones white; forming two whitish strips there, which are very conspicuous; rump and tail coverts pale light blue, tail the same, gradually deepening into black, and tipped for half an inch with rich yellow. Six or seven, and sometimes the whole nine, secondary feathers of the wings, are ornamented at the tips with small red oblong appendages, resembling red sealing-wax; these appear to be a prolongation of the shafts, and to be intended for preserving the ends, and consequently the vanes, of the quills from being broken and worn away, by the almost continual fluttering of the bird among thick branches of the cedar. The feathers of those birds which are without these appendages are uniformly found ragged on the edges; but smooth and perfect in those on whom the marks are full and numerous. These singular marks have been usually considered as belonging to the male alone, from the circumstance, perhaps, of finding female birds without them. They are, however, common to both male and female. Six of the latter are now lying before me, each with large and numerous clusters of eggs, and having the waxen appendages in full perfection. The young birds do not receive them until the second fall, when, in moulting time, they may be seen fully formed, as the feather is developed from its sheath. I have once or twice found a solitary one on the extremity of one of the tail feathers. The eye is of a dark blood color; the legs and claws black; the inside of the mouth orange; gap wide; and the gullet capable of such distention as often to contain twelve or fifteen cedar berries, and serving as a kind of craw to prepare them for digestion. No wonder then that this gluttonous bird, with such a mass of food almost continually in his throat, should want both the inclination and powers for vocal melody, which would seem to belong to those only of less gross and voracious habits. The chief difference in the plumage of the male and female consists in the dullness of the tints of the latter, the inferior appearance of the crest, and the narrowness of the yellow bar on the tip of the tail.

Though I do not flatter myself with being able to remove that prejudice from the minds of foreigners, which has made them lock on this

bird, also, as a degenerate and not a distinct species from their own, yet they must allow that the change has been very great, very uniform, and universal, all over North America, where I have never heard that the European species has been found; or even if it were, this would only show more clearly the specific difference of the two, by proving that climate or food could never have produced these differences in either, when both retain them, though confined to the same climate.

But it is not only in the color of their plumage that these two birds differ, but in several important particulars, in their manners and habits. The breeding place of the European species is absolutely unknown; supposed to be somewhere about the polar regions; from whence, in winter, they make different and very irregular excursions to different parts of Europe; seldom advancing farther south than the north of England, in lat. 54° N., and so irregularly, that many years sometimes elapse between their departure and reappearance; which in more superstitious ages has been supposed to portend some great national calamity. On the other hand, the American species inhabits the whole extensive range between Mexico and Canada, and perhaps much farther both northerly and southerly, building and rearing their young in all the intermediate regions, often in our gardens and orchards, within a few yards of our houses.

In some parts of the country they are called Crown-birds; in others Cherry-birds, from their fondness for that fruit. They also feed on ripe persimmons, small winter grapes, bird-cherries, and a great variety of other fruits and berries. The action of the stomach on these seeds and berries does not seem to injure their vegetative powers; but rather to promote them, by imbedding them in a calcareous case, and they are thus transported to and planted in various and distant parts by these little birds. In other respects, however, their usefulness to the farmer may be questioned; and in the general chorus of the feathered songsters they can scarcely be said to take a part. We must therefore rank them far below many more homely and minute warblers, their neighbors, whom Providence seems to have formed, both as allies to protect the property of the husbandman from devouring insects, and as musicians to cheer him, while engaged in the labors of the field, with their innocent and delightful melody.

GENUS XXXV. LOXIA.* GROSBEAK.

SPECIES I. *L. CARDINALIS*.

CARDINAL GROSBEAK.

[Plate XI. Figs. 1, 2.]

LINN. *Syst.* I, p. 300, No. 5.—*Le Gros-bec de Virginie*, BRISS. *Orn.* III., p. 255, No. 17.—BUFF. III., p. 458, pl. 28. *Pl. Enl.* 37.—LATH. *Syn.* II., p. 118, No. 13.—*Cardinal*, BROWN'S *Jam.* p. 647.†

THIS is one of our most common cage birds; and is very generally known, not only in North America, but even in Europe; numbers of them having been carried over both to France and England, in which last country they are usually called Virginia Nightingales. To this name, Dr. Latham observes, "they are fully entitled," from the clearness and variety of their notes, which, both in a wild and domestic state, are very various and musical; many of them resemble the high notes of a fife, and are nearly as loud. They are in song from March to September, beginning at the first appearance of dawn, and repeating a favorite stanza, or passage, twenty or thirty times successively; sometimes with little intermission for a whole morning together; which, like a good story too often repeated, becomes at length tiresome and insipid. But the sprightly figure, and gaudy plumage of the Red-bird, his vivacity, strength of voice, and actual variety of note, and the little expense with which he is kept, will always make him a favorite.

This species, like the Mocking-bird, is more numerous to the east of the great range of the Alleghany Mountains; and inhabits from New England to Carthagenæ. Michaux the younger, son to the celebrated botanist, informed me, that he found this bird numerous in the Bermudas. In Pennsylvania and the Northern States it is rather a scarce species; but through the whole lower parts of the Southern States, in the neighborhood of settlements, I found them much more numerous; their clear and lively notes, in the months of January and February,

* This genus, as constituted by Brisson and at present adopted, does not include the four species described under it by Wilson. The three first have been referred to the genus *Fringilla*, and the fourth, according to Temminck, belongs to the genus *Pyrrhula* of Brisson.

† We add the following synonymes:—*Loxia cardinalis*, GMEL. *Syst.* I., p. 847, *Cardinal Grosbeak*, ARCT. *Zool.* No. 210. CATESB. *Car.* I., t. p. 38.

being, at that time, almost the only music of the season. Along the road sides and fences I found them hovering in half dozens together, associated with snow birds and various kinds of sparrows. In the Northern States they are migratory; but in the lower parts of Pennsylvania they reside during the whole year, frequenting the borders of creeks and rivulets, in sheltered hollows covered with holly, laurel, and other evergreens. They love also to reside in the vicinity of fields of Indian corn, a grain that constitutes their chief and favorite food. The seeds of apples, cherries, and of many other sorts of fruit, are also eaten by them; and they are accused of destroying bees.

In the months of March and April the males have many violent engagements for their favorite females. Early in May in Pennsylvania they begin to prepare their nest, which is very often fixed in a hollow, cedar or laurel bush. Outwardly it is constructed of small twigs, tops of dry weeds, and slips of vine bark, and lined with stalks of fine grass. The female lays four eggs thickly marked all over with touches of brownish olive, on a dull white ground, as represented in the figure; and they usually raise two broods in the season. These birds are rarely raised from the nest for singing, being so easily taken in trap cages, and soon domesticated. By long confinement, and perhaps unnatural food, they are found to fade in color, becoming of a pale whitish red. If well taken care of, however, they will live to a considerable age. There was in Mr. Peale's museum, the stuffed skin of one of these birds, which was there said to have lived in a cage upward of twenty-one years.

The opinion which so generally prevails in England, that the music of the groves and woods of America is far inferior to that of Europe, I, who have a thousand times listened to both, cannot admit to be correct. We cannot with fairness draw a comparison between the depth of the forest in America, and the cultivated fields of England; because it is a well known fact, that singing birds seldom frequent the former, in any country. But let the latter places be compared with the like situations in the United States, and the superiority of song, I am fully persuaded, would justly belong to the western continent. The few of our song birds that have visited Europe extort admiration from the best judges. "The notes of the Cardinal Grosbeak," says Latham, "are almost equal to those of the Nightingale." Yet these notes, clear, and excellent as they are, are far inferior to those of the Wood Thrush; and even to those of the Brown Thrush or Thrasher. Our inimitable Mocking-bird is also acknowledged, by themselves, to be fully equal to the song of the Nightingale "in its whole compass." Yet these are not one-tenth of the number of our singing birds. Could these people be transported to the borders of our woods and settlements, in the

month of May, about half an hour before sunrise, such a ravishing concert would greet their ear as they have no conception of.

The males of the Cardinal Grosbeak, when confined together in a cage, fight violently. On placing a looking-glass before the cage, the gesticulations of the tenant are truly laughable; yet with this he soon becomes so well acquainted, that, in a short time, he takes no notice whatever of it; a pretty good proof that he has discovered the true cause of the appearance to proceed from himself. They are hardy birds, easily kept, sing six or eight months in the year, and are most lively in wet weather. They are generally known by the names, Red-bird, Virginia Red-bird, Virginia Nightingale, and Crested Red-bird, to distinguish them from another beautiful species which is represented on the same plate.

I do not know that any successful attempts have been made to induce these birds to pair and breed in confinement; but I have no doubt of its practicability by proper management. Some months ago I placed a young unfledged Cow-bird (the *Fringilla peccoris* of Turton), whose mother, like the Cuckoo of Europe, abandons her eggs and progeny to the mercy and management of other smaller birds, in the same cage with a Red-bird, which fed and reared it with great tenderness. They both continue to inhabit the same cage, and I have hopes that the Red-bird will finish his pupil's education by teaching him his song.

I must here remark, for the information of foreigners, that the story told by Le Page du Pratz, in his History of Louisiana, and which has been so often repeated by other writers, that the Cardinal Grosbeak "collects together great hoards of maize and buckwheat, often as much as a bushel, which it artfully covers with leaves and small twigs, leaving only a small hole for entrance into the magazine," is entirely fabulous.

This species is eight inches long, and eleven in extent; the whole upper parts are a dull dusky red, except the sides of the neck and head, which, as well as the whole lower parts, are bright vermilion; chin, front and lores, black; the head is ornamented with a high, pointed crest, which it frequently erects in an almost perpendicular position; and can also flatten at pleasure, so as to be scarcely perceptible; the tail extends three inches beyond the wings, and is nearly even at the end; the bill is of a brilliant coralline color, very thick and powerful for breaking hard grain and seeds; the legs and feet a light clay color (not blood red as Buffon describes them); iris of the eye dark hazel. The female is less than the male, has the upper parts of a brownish olive or drab color, the tail, wings and tip of the crest excepted, which are nearly as red as those of the male; the lores, front and chin, are light ash; breast and lower parts a reddish drab; bill, legs and eyes, as those of the male; the crest is shorter and less frequently raised.

One peculiarity in the female of this species is, that she often sings

nearly as well as the male. I do not know whether it be owing to some little jealousy on this score or not, that the male, when both occupy the same cage, very often destroys the female.

SPECIES II. *LOXIA LUDOVICIANA*.

ROSE-BREASTED GROSBEEK.

[Plate XVII. Fig. 2, Male.]

Loxia Ludoviciana, GMEL. *Syst.* I., p. 861.—*Red-breasted Grosbeak*, *Arct. Zool.* p. 350, No. 212.—*Red-breasted Finch*, *Id.* 372, No. 245.—*Le Rose gorge*, BUFF. III., 460.—*Gros-bec de la Louisiane*, *Pl. Enl.* 153, fig. 2.—LATH. *Syn.* II., 126.

THIS elegant species is rarely found in the lower parts of Pennsylvania; in the state of New York, and those of New England, it is more frequently observed; particularly in fall when the berries of the sour gum are ripe, on the kernels of which it eagerly feeds. Some of its trivial names would import that it is also an inhabitant of Louisiana; but I have not heard of its being seen in any of the Southern States. A gentleman of Middleton, Connecticut, informed me, that he kept one of these birds for some considerable time in a cage, and observed that it frequently sung at night, and all night; that its notes were extremely clear and mellow, and the sweetest of any bird with which he is acquainted.

The bird from which the figure on the plate was taken, was shot, late in April, on the borders of a swamp, a few miles from Philadelphia. Another male of the same species was killed at the same time, considerably different in its markings; a proof that they do not acquire their full colors until at least the second spring or summer.

The Rose-breasted Grosbeak is eight inches and a half long, and thirteen inches in extent; the whole upper parts are black except the second row of wing coverts, which are broadly tipped with white; a spot of the same extends over the primaries, immediately below their coverts; chin, neck and upper part of the breast black; lower part of the breast, middle of the belly, and lining of the wings, a fine light carmine or rose-color; tail forked, black, the three exterior feathers, on each side, white on their inner vanes for an inch or more from the tips; bill, like those of its tribe, very thick and strong, and pure white; legs and feet light blue; eyes hazel. The young male of the first spring has the plumage of the back variegated with light brown, white and black; a line of white extends over the eye; the rose color also reaches to the base of the bill where it is speckled with black and white. The female

is of a light yellowish flaxen color, streaked with dark olive and whitish; the breast is streaked with olive, pale flaxen, and white; the lining of the wings is pale yellow; the bill more dusky than in the male, and the white on the wing less.

SPECIES III. *LOXIA CÆRULEA*.

BLUE GROSBEAK.

[Plate XXIV. Fig. 6.]

LINN. *Syst.* 304.—LATHAM, *Syn.* III., p. 116.—*Arct. Zool.* p. 351, No. 217.—CATESBY, *Car.* I., 39.—BUFFON, III., 454. *Pl. Enl.* 154.

THIS solitary and retired species inhabits the warmer parts of America, from Guiana, and probably farther south,* to Virginia. Mr. Bartram also saw it during a summer's residence near Lancaster, Pennsylvania. In the United States, however, it is a scarce species; and having but few notes, is more rarely observed. Their most common note is a loud *chuck*; they have also at times a few low sweet toned notes. They are sometimes kept in cages in Carolina; but seldom sing in confinement. The individual represented in the plate was a very elegant specimen, in excellent order, though just arrived from Charleston, South Carolina. During its stay with me, I fed it on Indian corn, which it seemed to prefer, easily breaking with its powerful bill the hardest grains. They also feed on hemp seed, millet, and the kernels of several kinds of berries. They are timid birds, watchful, silent and active, and generally neat in their plumage. Having never yet met with their nest, I am unable at present to describe it.

The Blue Grosbeak is six inches long, and ten inches in extent; lores and frontlet black; whole upper parts a rich purplish blue, more dull on the back, where it is streaked with dusky; greater wing coverts black, edged at the tip with bay; next superior row wholly chestnut; rest of the wing black, skirted with blue; tail forked, black, slightly edged with bluish, and sometimes minutely tipped with white; legs and feet lead color; bill a dusky bluish horn color; eye large, full and black.

The female is of a dark drab color, tinged with blue, and considerably lightest below. I suspect the males are subject to a change of color during winter. The young, as usual with many other species, do not

* Latham, II., p. 116.

receive the blue color until the ensuing spring; and till then very much resemble the female.

Latham makes two varieties of this species; the first wholly blue, except a black spot between the bill and eye; this bird inhabits Brazil, and is figured by Brisson, Orn. III., 321, No. 6, pl. 17, fig. 2. The other is also generally of a fine deep blue, except the quills, tail and legs, which are black; this is Edwards' "Blue Grosbeak from Angola," pl. 125; which Dr. Latham suspects to have been brought from some of the Brazilian settlements, and considers both as mere varieties of the first. I am sorry I cannot at present clear up this matter, but shall take some farther notice of it hereafter.

SPECIES IV. *LOXIA ENUCLEATOR*.

PINE GROSBEEK.

[Plate V. Fig. 2.]

Loxia Eucleator, LINN. *Syst.* I., p. 299, 3.—*Le Dur-bec, ou Gros-bec de Canada*, BUFFON, III., p. 457. *Pl. Enl.* 135, 1.—EDW. 123, 124.—LATH. *Syn.* III., p. 111, 5.

THIS is perhaps one of the gayest plumaged land birds that frequent the inhospitable regions of the north, whence they are driven, as if with reluctance, by the rigors of winter, to visit Canada, and some of the Northern and Middle States; returning to Hudson's Bay so early as April. The specimen from which our drawing was taken, was shot on a cedar tree, a few miles to the north of Philadelphia, in the month of December; and a faithful resemblance of the original, as it then appeared, is exhibited in the plate. A few days afterwards, another bird of the same species was killed not far from Gray's Ferry, four miles south of Philadelphia, which proved to be a female. In this part of the state of Pennsylvania, they are rare birds, and seldom seen. As they do not, to my knowledge, breed in any part of this state, I am unable, from personal observation, to speak of their manners or musical talents. Pennant says, they sing on their first arrival in the country round Hudson's Bay, but soon become silent; make their nest on trees, at a small height from the ground, with sticks, and line it with feathers. The female lays four white eggs, which are hatched in June. Foster observes, that they visit Hudson's Bay only in May, on their way to the north; and are not observed to return in the autumn; and that their food consists of birch-willow buds, and others of the same nature.*

* Phil. Trans. LXII., p. 402.

The Pine Grosbeak measures nine inches in length, and fourteen inches in extent; the head, neck, breast and rump is of a rich crimson, palest on the breast; the feathers on the middle of the back are centered with arrow-shaped spots of black, and skirted with crimson, which gives the plumage a considerable flush of red there; those on the shoulders are of a deep slate color, partially skirted with red and light ash. The greater wing-coverts and next superior row are broadly tipped with white, and slightly tinged with reddish; wings and tail black, edged with light brown; tail considerably forked; lower part of the belly ash color; vent feathers skirted with white, and streaked with black; legs glossy black; bill a brownish horn color, very thick, short and hooked at the point; the upper mandible overhanging the lower considerably, approaching in its form to that of the Parrot; base of the bill covered with recumbent hairs of a dark brown color. The whole plumage, near the roots, as in most other birds, is of a deep bluish ash color. The female was half an inch shorter, and answered nearly to the above description; only, those parts that in the male were crimson, were in her of a dirty yellowish color. The female, according to Foster, referred to above, has those parts which in the male are red, more of an orange tint; and he censures Edwards for having represented the female of too bright a red. It is possible, that my specimen of the female might have been a bird of the first season, not come to its full colors. Those figured by Mr. Edwards* were both brought from Hudson's Bay, and appear to be the same with the one now before us, though his coloring of the female differs materially from his description.

If this, as Mr. Pennant asserts, be the same species with that of the eastern continent, it would seem to inhabit almost the whole extent of the arctic regions. It is found in the north of Scotland, where Pennant suspects it breeds. It inhabits Europe as far north as Dronthiem; is common in all the pine forests of Asia, in Siberia, and the north of Russia, is taken in autumn about Petersburg, and brought to market in great numbers. It returns to Lapland in spring; is found in Newfoundland; and on the western coast of North America.†

Were I to reason from analogy, I would say, that from the great resemblance of this bird to the Purple-finch (*Fringilla purpurea*), it does not attain its full plumage until the second summer; and is subject to considerable change of color in moulting, which may have occasioned all the differences we find concerning it in different authors. But this is actually ascertained to be the case; for Mr. Edwards saw two of these birds alive in London, in cages; the person in whose custody they were, said they came from Norway; that they had moulted their feathers,

* Edw. Vol. III., p. 124.

† Pennant.

and were not afterwards so beautiful as they were at first. One of them, he says, was colored very much like the Green-finch (*Loxia Chloris*). The Purple-finch, though much smaller, has the rump, head, back and breast nearly of the same color as the Pine Grosbeak, feeds in the same manner, on the same food, and is also subject to like changes of color.

Since writing the above I have kept one of these Pine Grosbeaks, a male, for more than half a year. In the month of August those parts of the plumage which were red became of a greenish yellow, and continue so still. In May and June its song, though not so loud as some birds of its size, was extremely clear, mellow and sweet. It would warble out this for a whole morning together, and acquired several of the notes of a Red-bird (*L. cardinalis*), that hung near it. It is exceedingly tame and familiar, and when it wants food or water utters a continual melancholy and anxious note. It was caught in winter near the North river, thirty or forty miles above New York.

GENUS XXXV. CURVIROSTRA. CROSSBILL.

SPECIES I. *C. AMERICANA*.*

AMERICAN CROSSBILL.

[Plate XXXI. Fig. 1, Male.—Fig. 2, Female.†]

On first glancing at the bill of this extraordinary bird one is apt to pronounce it deformed and monstrous; but on attentively observing the use to which it is applied by the owner, and the dexterity with which he detaches the seeds of the pine tree from the cone, and from the husks that enclose them, we are obliged to confess on this as on many other occasions where we have judged too hastily of the operations of nature, that no other conformation could have been so excellently adapted to the purpose; and that its deviation from the common form, instead of being a defect or monstrosity, as the celebrated French naturalist insinuates, is a striking proof of the wisdom and kind superintending care of the great Creator.

This species is a regular inhabitant of almost all our pine forests situated north of 40°, from the beginning of September to the middle of April. It is not improbable that some of them remain during sum-

* This is not a new species, as supposed by Wilson, but the *Loxia curvirostra*, Linn. Ed. 10, p. 171.

† This is an adult male; fig. 1 is a young bird.

mer within the territory of the United States to breed. Their numbers must, however, be comparatively few, as I have never yet met with any of them in summer; though I lately took a journey to the Great Pine Swamp beyond Pocano Mountain, in Northampton county, Pennsylvania, in the month of May, expressly for that purpose; and ransacked for six or seven days the gloomy recesses of that extensive and desolate morass, without being able to discover a single Crossbill. In fall, however, as well as in winter and spring, this tract appears to be their favorite rendezvous; particularly about the head waters of the Lehigh, the banks of the Tobyhanna, Tunkhannock, and Bear creek, where I have myself killed them at these seasons. They then appear in large flocks, feeding on the seeds of the hemlock and white pine, have a loud, sharp, and not unmusical note; chatter as they fly; alight during the prevalence of deep snows before the door of the hunter, and around the house, picking off the clay with which the logs are plastered, and searching in corners where urine or any substance of a saline quality had been thrown. At such times they are so tame as only to settle on the roof of the cabin when disturbed, and a moment after descend to feed as before. They are then easily caught in traps; and will frequently permit one to approach so near as to knock them down with a stick. Those killed and opened at such times, are generally found to have the stomach filled with a soft greasy kind of earth or clay. When kept in a cage they have many of the habits of the Parrot; often climbing along the wires; and using their feet to grasp the cones in, while taking out the seeds.

This same species is found in Nova Scotia, and as far north as Hudson's Bay, arriving at Severn river about the latter end of May; and, according to accounts, proceeding farther north to breed. It is added, that "they return at the first setting in of frost."*

Hitherto this bird has, as usual, been considered a mere *variety* of the European species; though differing from it in several respects; and being nearly one-third less; and although the singular conformation of the bill of these birds and their peculiarity of manners are strikingly different from those of the Grosbeaks, yet many, disregarding these plain and obvious discriminations, still continue to consider them as belonging to the genus *Loxia*; as if the particular structure of the bill should, in all cases *but this*, be the criterion by which to judge of a species; or perhaps conceiving themselves the wiser of the two, they have thought proper to associate together what *Nature* has, in the most pointed manner, placed apart.

In separating these birds, therefore, from the Grosbeaks, and classing them as a family by themselves, substituting the specific for the generic

* Pennant.

appellation, I have only followed the steps and dictates of that great Original, whose arrangements ought never to be disregarded by any who would faithfully follow her.

The Crossbills are subject to considerable changes of color; the young males of the present species being, during the first season, olive yellow mixed with ash; then bright greenish yellow intermixed with spots of dusky olive; all of which yellow plumage becomes, in the second year, of a light red, having the edges of the tail inclining to yellow. When confined in a cage they usually lose the red color at the first moulting, that tint changing to a brownish yellow, which remains permanent. The same circumstance happens to the Purple Finch and Pine Grosbeak, both of which, when in confinement, exchange their brilliant crimson for a motley garb of light brownish yellow; as I have had frequent opportunities of observing.

The male of this species, when in perfect plumage, is five inches and three quarters long, and nine inches in extent; the bill is a brown horn color, sharp, and single edged towards the extremity, where the mandibles cross each other; the general color of the plumage is a red-lead color, brightest on the rump, generally intermixed on the other parts with touches of olive; wings and tail brown black, the latter forked, and edged with yellow; legs and feet brown; claws large, much curved, and very sharp; vent white, streaked with dark ash; base of the bill covered with recumbent down, of a pale brown color; eye hazel.

The female is rather less than the male; the bill of a paler horn color; rump, tail coverts and edges of the tail golden yellow: wings and tail dull brownish black; the rest of the plumage olive yellow mixed with ash; legs and feet as in the male. The young males during the first season, as is usual with most other birds, very much resemble the female. In moulting, the males exchange their red for brownish yellow, which gradually brightens into red. Hence at different seasons they differ greatly in color.

SPECIES II. *CURVIROSTRA LEUCOPTERA*.

WHITE-WINGED CROSSBILL.

[Plate XXXI. Fig. 3.]

TURTON, *Syst.* I., p. 515.*

THIS is a much rarer species than the preceding; though found frequenting the same places, and at the same seasons; differing, however, from the former in the deep black wings and tail, the large bed of white on the wing, the dark crimson of the plumage, and a less and more slender conformation of body. The bird represented in the plate was shot in the neighborhood of the Great Pine Swamp, in the month of September, by my friend Mr. Ainsley, a German naturalist, collector in this country for the Emperor of Austria. The individual of this species mentioned by Turton and Latham, had evidently been shot in moulting time. The present specimen was a male in full and perfect plumage.†

The White-winged Crossbill is five inches and a quarter long, and eight inches and a quarter in extent; wings and tail deep black, the former crossed with two broad bars of white; general color of the plumage dark crimson, partially spotted with dusky; lores and frontlet pale brown; vent white, streaked with black; bill a brown horn color, the mandibles crossing each other as in the preceding species, the lower sometimes bending to the right, sometimes to the left, usually to the left in the male, and to the right in the female of the *American* Crossbill. The female of the present species will be introduced as soon as a good specimen can be obtained, with such additional facts relative to their manners as may then be ascertained.

* We add the following synonyms:—*Loxia leucoptera*, Gmel. *Syst.* I., p. 844.—*Loxia falcirostra*, LATH. *Ind. Orn.* I., p. 371.—*White-winged Crossbill*, LATH. *Syn.* III., p. 108, 2. *Id. Sup.* p. 148. *Arct. Zool.* II., No. 208.

† This is a mistake; it was a young male.

GENUS XXXVI. EMBERIZA. BUNTING.

SPECIES I. *E. AMERICANA*.

BLACK-THROATED BUNTING.

[Plate III. Fig. 2.]

Calandra pratensis, the *May Bird*, BARTRAM, p. 291.—*Aret. Zool.* 228.—*Emberiza Americana*, IND. ORN. p. 411, 42.*

OF this bird I have but little to say. They arrive in Pennsylvania, from the south, about the middle of May; abound in the neighborhood of Philadelphia; and seem to prefer level fields, covered with rye-grass, timothy, or clover, where they build their nest, fixing it in the ground, and forming it of fine dried grass. The female lays five white eggs, sprinkled with specks and lines of black. Like most part of their genus, they are nowise celebrated for musical powers. Their whole song consists of five notes, or, more properly, of two notes; the first repeated twice and slowly, the second thrice, and rapidly, resembling *chip, chip, che che che*. Of this ditty, such as it is, they are by no means parsimonious, for, from their first arrival, for the space of two or three months, every level field of grain or grass is perpetually serenaded with *chip, chip, che che che*. In their shape and manners they very much resemble the Yellow-Hammer of Britain (*E. citrinella*); like them they are fond of mounting to the top of some half-grown tree, and there chirruping for half an hour at a time. In travelling through different parts of New York and Pennsylvania, in spring and summer, wherever I came to level fields of deep grass, I have constantly heard these birds around me. In August they become mute, and soon after, that is, towards the beginning of September, leave us altogether.

The Black-throated Bunting is six inches and a half in length; the upper part of the head is of a dusky greenish yellow; neck dark ash; breast, inside shoulders of the wing, line over the eye and at the lower angle of the bill yellow; chin, and space between the bill and eye white; throat covered with a broad, oblong, somewhat heart-shaped patch of black, bordered on each side with white; back, rump and tail ferruginous, the first streaked with black; wings deep dusky, edged with a light clay color; lesser coverts and whole shoulder of the wing

* We add the following synonyms:—*Emberiza Americana*, GMEL. *Syst.* 1, p. 872.—LATH. *Syn.* 2, p. 197, pl. 44. *Fringilla flaricollis*, GMEL. *Syst.* 1., 926.

bright bay; belly and vent dull white; bill light blue, dusky above, strong and powerful for breaking seeds; legs and feet brown; iris of the eye hazel. The female differs from the male in having little or no black on the breast, nor streak of yellow over the eye; beneath the eye she has a dusky streak, running in the direction of the jaw. In all those I opened the stomach was filled with various seeds, gravel, eggs of insects, and sometimes a slimy kind of earth or clay.

This bird has been figured by Latham, Pennant, and several others. The former speaks of a bird which he thinks is either the same, or nearly resembling it, that resides in summer in the country about Hudson's Bay, and is often seen associating in flights with the geese;* this habit, however, makes me suspect that it must be a different species; for while with us here the Black-throated Bunting is never gregarious; but is almost always seen singly, or in pairs, or, at most, the individuals of one family together.

SPECIES II. *EMBERIZA ERYTHROPHTHALMA*.

TOWHE BUNTING.

[Plate X. Fig. 5, Male.]

Fringilla erythrophthalma, LINN. *Syst.* p. 318, 6.—*Le Pinson de la Caroline*, BRISS. *Orn.* III., p. 169, 44.—BUFF. *Ois.* IV., p. 141.—LATH. II., p. 199, No. 43.—CATESB. *Car.* I., Pl. 34.

THIS is a very common, but humble and inoffensive species, frequenting close sheltered thickets, where it spends most of its time in scratching up the leaves for worms, and for the larvæ and eggs of insects. It is far from being shy, frequently suffering a person to walk round the bush or thicket where it is at work, without betraying any marks of alarm; and when disturbed, uttering the notes *Towhè*, repeatedly. At times the male mounts to the top of a small tree, and chants his few simple notes for an hour at a time. These are loud, not unmusical, something resembling those of the Yellow-hammer of Britain, but more mellow, and more varied. He is fond of thickets with a southern exposure, near streams of water, and where there is plenty of dry leaves, and is found, generally, over the whole United States. He is not gregarious, and you seldom see more than two together. About the middle or twentieth of April they arrive in Pennsylvania, and begin building about the first week in May. The nest is fixed on the ground

* LATH. *Syn. Suppl.* p. 158.

among the dry leaves, near, and sometimes under, a thicket of briars, and is large and substantial. The outside is formed of leaves and pieces of grape-vine bark, and the inside of fine stalks of dry grass, the cavity completely sunk beneath the surface of the ground, and *sometimes* half covered above with dry grass or hay. The eggs are usually five, of a pale flesh color, thickly marked with specks of rufous, most numerous near the great end (see fig. 6). The young are produced about the beginning of June; and a second brood commonly succeeds in the same season. This bird rarely winters north of the state of Maryland; retiring from Pennsylvania to the south about the twelfth of October. Yet in the middle districts of Virginia, and thence south to Florida, I found it abundant during the months of January, February and March. Its usual food is obtained by scratching up the leaves; it also feeds, like the rest of its tribe, on various hard seeds and gravel; but rarely commits any depredations on the harvest of the husbandman; generally preferring the woods, and traversing the bottom of fences sheltered with briars. He is generally very plump and fat; and when confined in a cage soon becomes familiar. In Virginia he is called the Bulfinch; in many places the Towhe-bird; in Pennsylvania the Chewink, and by others the Swamp Robin. He contributes a little to the harmony of our woods in spring and summer; and is remarkable for the cunning with which he conceals his nest. He shows great affection for his young; and the deepest marks of distress on the appearance of their mortal enemy the black-snake.

The specific name which Linnæus has bestowed on this bird is deduced from the color of the iris of its eye, which, in those that visit Pennsylvania, is dark red. But I am suspicious that this color is not permanent, but subject to a periodical change. I examined a great number of these birds in the month of March, in Georgia, every one of which had the iris of the eye *white*. Mr. Abbot of Savannah assured me, that at this season, every one of these birds he shot had the iris white, while at other times it was red; and Mr. Elliot, of Beaufort, a judicious naturalist, informed me, that in the month of February he killed a Towhe Bunting with one eye red and the other white! It should be observed that the iris of the young bird's eye is of a chocolate color, during its residence in Pennsylvania; perhaps this may brighten into a white during winter, and these may have been all birds of the preceding year, which had not yet received the full color of the eye.

The Towhe Bunting is eight inches and a half long, and eleven broad; above black, which also descends rounding on the breast, the sides of which are bright bay, spreading along under the wings; the belly is white, the vent pale rufous; a spot of white marks the wing just below the coverts, and another a little below that extends obliquely across the primaries; the tail is long, nearly even at the end; the three exterior

feathers white for an inch or so from the tips, the outer one wholly white, the middle ones black; the bill is black; the legs and feet a dirty flesh color, and strong for scratching up the ground. The female differs in being of a light reddish brown in those parts where the male is black; and in having the bill more of a light horn color.

EMBERIZA ERYTHROPHTHALMA.

TOWHE BUNTING.

[Plate LIII. Fig. 5, Female.]

TURT. *Syst.* p. 534.

THIS bird differs considerably from the male in color; and has, if I mistake not, been described as a distinct species by European naturalists, under the appellation of the "*Rusty Bunting*." The males of this species, arrive several days sooner than the females. In one afternoon's walk through the woods, on the twenty-third of April, I counted more than fifty of the former, and did not observe any of the latter, though I made a very close search for them. This species frequents, in great numbers, the barrens covered with shrub oaks; and inhabits even to the tops of our mountains. They are almost perpetually scratching among the fallen leaves, and feed chiefly on worms, beetles and gravel. They fly low, flirting out their broad white-streaked tail, and uttering their common note *Towhê*. They build always on the ground, and raise two broods in the season. For a particular account of the manners of this species, see our history of the male.

The female Towhe is eight inches long, and ten inches in extent; iris of the eye a deep blood color; bill black; plumage above, and on the breast, a dark reddish drab, reddest on the head and breast; sides under the wings light chestnut; belly white; vent yellow ochre; exterior vanes of the tertials white; a small spot of white marks the primaries immediately below their coverts, and another slighter streak crosses them in a slanting direction; the three exterior tail feathers are tipped with white; the legs and feet flesh-colored.

This species seems to have a peculiar dislike to the sea coast, as in the most favorable situations, in other respects, within several miles of the sea, it is scarcely ever to be met with. Scarcity of its particular kinds of a favorite food in such places may probably be the reason; as it is well known that many kinds of insects, on the larvæ of which it usually feeds, carefully avoid the neighborhood of the sea.

SPECIES III. *EMBERIZA ORYZIVORA*.

RICE BUNTING.

[Plate XII. Figs. 1 and 2.]

Emberiza oryzivora, LINN. *Syst.* p. 311, 16.—*Le Oortolan de la Caroline*, BRISS. *Orn.* III., p. 282, 8, pl. 15, fig. 3. *Pl. Enl.* 388, fig. 1.—*L'Agripenne, ou L'Oortolan de Riz*, BUFF. *Ois.* IV., p. 337.—*Rice-bird*, CATESB. *Car.* I., pl. 14.—EDW. pl. 2.—LATHAM II., p. 188, No. 25.

THIS is the *Bobolink* of the Eastern and Northern States, and the *Rice* and *Reed-bird* of Pennsylvania and the Southern States. Though small in size, he is not so in consequence; his coming is hailed by the sportsman with pleasure; while the careful planter looks upon him as a devouring scourge, and worse than a plague of locusts. Three good qualities, however, entitle him to our notice, particularly as these three are rarely found in the same individual;—his plumage is beautiful, his song highly musical, and his flesh excellent. I might also add, that the immense range of his migrations, and the havoc he commits, are not the least interesting parts of his history.

The winter residence of this species I suppose to be from Mexico to the mouth of the Amazon, from whence in hosts innumerable he regularly issues every spring, perhaps to both hemispheres, extending his migrations northerly as far as the banks of the Illinois and the shores of the St. Lawrence. Could the fact be ascertained, which has been asserted by some writers, that the emigration of these birds was altogether unknown in this part of the continent, previous to the introduction of rice plantations, it would certainly be interesting. Yet, why should these migrations reach at least a thousand miles beyond those places where rice is now planted; and this not in occasional excursions, but regularly to breed, and rear their young, where rice never was, and probably never will be cultivated? Their so recent arrival on this part of the continent I believe to be altogether imaginary, because, though there were not a single grain of rice cultivated within the United States, the country produces an exuberance of food of which they are no less fond. Insects of various kinds, grubs, May-flies and caterpillars, the young ears of Indian corn, and the seeds of the wild oats, or, as it is called in Pennsylvania, reeds (the *Zizania aquatica* of Linnæus), which grows in prodigious abundance along the marshy shores of our large rivers, fur-

nish, not only them, but millions of Rail, with a delicious subsistence for several weeks. I do not doubt, however, that the introduction of rice, but more particularly the progress of agriculture in this part of America, has greatly increased their numbers, by multiplying their sources of subsistence fifty fold within the same extent of country.

In the month of April, or very early in May, the Rice Bunting, male and female, in the dresses in which they are figured on the plate, arrive within the southern boundaries of the United States; and are seen around the town of Savannah, in Georgia, about the fourth of May, sometimes in separate parties of males and females; but more generally promiscuously. They remain there but a short time; and about the twelfth of May make their appearance in the lower parts of Pennsylvania, as they did at Savannah. While here the males are extremely gay and full of song; frequenting meadows, newly ploughed fields, sides of creeks, rivers, and watery places, feeding on May-flies and caterpillars, of which they destroy great quantities. In their passage, however, through Virginia at this season, they do great damage to the early wheat and barley, while in its milky state. About the twentieth of May they disappear on their way to the north. Nearly at the same time they arrive in the state of New York, spread over the whole New England States as far as the river St. Lawrence from Lake Ontario to the sea; in all of which places north of Pennsylvania they remain during the summer, building, and rearing their young. The nest is fixed on the ground, generally in a field of grass; the outside is composed of dry leaves and coarse grass, the inside is lined with fine stalks of the same, laid in considerable quantity. The female lays five eggs, of a bluish white, marked with numerous irregular spots of blackish brown. The song of the male, while the female is sitting, is singular, and very agreeable. Mounting and hovering on wing, at a small height above the field, he chants out such a jingling medley of short variable notes, uttered with such seeming confusion and rapidity, and continued for a considerable time, that it appears as if half a dozen birds of different kinds were all singing together. Some idea may be formed of this song by striking the high keys of a piano-forte at random, singly, and quickly, making as many sudden contrasts of high and low notes as possible. Many of the tones are, in themselves, charming; but they succeed each other so rapidly that the ear can hardly separate them. Nevertheless the general effect is good; and when ten or twelve are all singing on the same tree, the concert is singularly pleasing. I kept one of these birds for a long time, to observe its change of color. During the whole of April, May, and June, it sang almost continually. In the month of June the color of the male begins to change, gradually assimilating to that of the female, and before the beginning of August it is difficult to distinguish the one from the other, both being then in the dress of

fig. 2. At this time, also, the young birds are so much like the female, or rather like both parents, and the males so different in appearance from what they were in spring, that thousands of people in Pennsylvania, to this day, persist in believing them to be a different species altogether. While others allow them indeed to be the same, but confidently assert that they are all females—none but females, according to them, returning in the fall; what becomes of the males they are totally at a loss to conceive. Even Mr. Mark Catesby, who resided for years, in the country they inhabit, and who, as he himself informs us, examined by dissection great numbers of them in the fall, and repeated his experiment the succeeding year, lest he should have been mistaken, declares that he uniformly found them to be females. These assertions must appear odd to the inhabitants of the Eastern States, to whom the change of plumage in these birds is familiar, as it passes immediately under their eye: and also to those, who like myself, have kept them in cages, and witnessed their gradual change of color. That accurate observer, Mr. William Bartram, appears, from the following extract, to have taken notice of, or at least suspected this change of color in these birds more than forty years ago. "Being in Charleston," says he, "in the month of June, I observed a cage full of Rice-birds, that is of the yellow or female color, who were very merry and vociferous, having the same variable music with the pied or male bird, which I thought extraordinary, and observing it to the gentleman, he assured me that they were all of the male kind, taken the preceding spring; but had changed their color, and would be next spring of the color of the pied, thus changing color with the seasons of the year. If this is really the case, it appears they are both of the same species intermixed, spring and fall." Without, however, implicating the veracity of Catesby, who, I have no doubt, believed as he wrote, a few words will easily explain why he was deceived. The internal organization of undomesticated birds of all kinds, undergoes a remarkable change, every spring and summer; and those who wish to ascertain this point by dissection will do well to remember, that in this bird those parts that characterize the male are, in autumn, no larger than the smallest pin's head, and in young birds of the first year can scarcely be discovered; though in spring their magnitude in each is at least one hundred times greater. To an unacquaintance with this extraordinary circumstance I am persuaded has been owing the mistake of Mr. Catesby that the females only return in the fall; for the same opinion I long entertained myself, till a more particular examination showed me the source of my mistake. Since that, I have opened and examined many hundreds of these birds, in the months of September and October, and, on the whole, have found about as many males as females among them. The latter may be distinguished from the former

by being of a rather more shining yellow on the breast and belly; it is the same with the young birds of the first season.

During the breeding season they are dispersed over the country; but as soon as the young are able to fly, they collect together in great multitudes, and pour down on the oat fields of New England like a torrent, depriving the proprietors of a good tithe of their harvest; but in return often supply his table with a very delicious dish. From all parts of the north and western regions they direct their course towards the south; and about the middle of August revisit Pennsylvania on their route to winter quarters. For several days they seem to confine themselves to the fields and uplands; but as soon as the seeds of the reed are ripe they resort to the shores of the Delaware and Schuylkill in multitudes; and these places, during the remainder of their stay, appear to be their grand rendezvous. The reeds, or wild oats, furnish them with such abundance of nutritious food, that in a short time they become extremely fat; and are supposed by some of our epicures, to be equal to the famous Ortolans of Europe. Their note at this season is a single *chink*, and is heard over head, with little intermission, from morning to night. These are halcyon days for our gunners of all descriptions, and many a lame and rusty gun barrel is put in requisition for the sport. The report of musketry along the reedy shores of the Schuylkill and Delaware is almost incessant, resembling a running fire. The markets of Philadelphia, at this season, exhibit proofs of the prodigious havoc made among these birds; for almost every stall is ornamented with strings of Reed-birds. This sport, however, is considered inferior to that of *Rail-shooting*, which is carried on at the same season and places with equal slaughter. Of this, as well as of the Rail itself, we shall give a particular account in its proper place.

Whatever apology the people of the Eastern and Southern States may have for the devastation they spread among the Rice and Reed-Birds, the Pennsylvanians, at least those living in this part of it, have little to plead in justification, but the pleasure of destruction, or the savory dish they furnish their tables with; for the oat harvest is generally secured before the great body of these birds arrive, the Indian corn too ripe and hard, and the reeds seem to engross all their attention. But in the states south of Maryland, the harvest of early wheat and barley in spring, and the numerous plantations of rice in fall, suffer severely. Early in October, or as soon as the nights begin to set in cold, they disappear from Pennsylvania, directing their course to the south. At this time they swarm among the rice fields; and appear in the island of Cuba in immense numbers, in search of the same delicious grain. About the middle of October they visit the island of Jamaica in equal numbers, where they are called *Butter-birds*. They feed on

the seed of the Guinea grass, and are also in high esteem there for the table.*

Thus it appears, that the regions north of the fortieth degree of latitude are the breeding places of these birds; that their migrations north-erly are performed from March to May, and their return southerly from August to November; their precise winter quarters, or farthest retreat southerly, is not exactly known.

The Rice Bunting is seven inches and a half long, and eleven and a half in extent: his spring dress is as follows; upper part of the head, wings, tail and sides of the neck, and whole lower parts black; the feathers frequently skirted with brownish yellow as he passes into the colors of the female; back of the head a cream color; back black, seamed with brownish yellow; scapulars pure white, rump and tail coverts the same; lower part of the back bluish white; tail formed like those of the Woodpecker genus, and often used in the same manner, being thrown in to support it while ascending the stalks of the reed; this habit of throwing in the tail it retains even in the cage; legs a brownish flesh color; hind heel very long; bill a bluish horn color; eye hazel; see fig. 1. In the month of June this plumage gradually changes to a brownish yellow, like that of the female, fig. 2, which has the back streaked with brownish black; whole lower parts dull yellow; bill reddish flesh color; legs and eyes as in the male. The young birds retain the dress of the female until the early part of the succeeding spring; the plumage of the female undergoes no material change of color.

* Rennel's Hist. Jam.

SPECIES IV. *EMBERIZA PECORIS*.

COW BUNTING.*

[Plate XVIII. Figs. 1, 2, and 3.]

Le Brunet, BUFF. IV., 138.—*Le Pinçon de Virginie*, BRISS. III., 165.—*Cowpen-bird*, CATESB. I., 34.—LATH. II., 269.—*Arct. Zool.* II., p. 371, No. 241.—*Sturnus stercorarius*, BARTRAM, p. 291.†

THERE is one striking peculiarity in the works of the great Creator, which becomes more amazing the more we reflect on it; namely, that he has formed no species of animals so minute, or obscure, that are not invested with certain powers and peculiarities, both of outward conformation and internal faculties, exactly suited to their pursuits, sufficient to distinguish them from all others; and forming for them a character solely and exclusively their own. This is particularly so among the feathered race. If there be any case where these characteristic features are not evident, it is owing to our want of observation; to our little intercourse with that particular tribe; or to that contempt for inferior animals and all their habitudes which is but too general, and which bespeaks a morose, unfeeling and unreflecting mind. These peculiarities are often surprising, always instructive where understood, and (as in the subject of our present chapter) at least amusing, and worthy of being farther investigated.

The most remarkable trait in the character of this species is the unaccountable practice it has of dropping its eggs into the nests of other birds, instead of building and hatching for itself; and thus entirely abandoning its progeny to the care and mercy of strangers. More than two thousand years ago it was well known, in those countries where the bird inhabits, that the Cuckoo of Europe (*Cuculus canorus*) never built

* The American Cuckoo (*Cuculus Carolinensis*) is by many people called the Cow-bird, from the sound of its notes resembling the words *cow, cow*. This bird builds its own nest very artlessly in a cedar or an apple tree, and lays four greenish blue eggs, which it hatches, and rears its young with great tenderness.

† Prince Musignano quotes the following Synonymes:—*Fringilla pecoris*, GMEL. LATH. female and young.—*Oriolus fuscus*, GMEL. adult male.—*Oriolus minor*, GMEL. species, No. 46, LATH. adult male.—*Sturnus obscurus*, GMEL. adult male.—*Sturnus junceti*, LATH. adult male.—*Troupiale de la Caroline*, BUFF. Pl. Enl. 606, fig. 1, adult male. This figure is, no doubt, intended for this bird, although the bill is incorrect.—BRISSON calls it *Fringilla Virginiana*; VIEILLOT, *Passerina pecoris*.

herself a nest, but dropped her eggs in the nests of other birds; but among the thousands of different species that spread over that and other parts of the globe, no other instance of the same uniform habit has been found to exist, until discovered in the bird now before us. Of the reality of the former there is no doubt; it is known to every schoolboy in Britain; of the truth of the latter I can myself speak with confidence, from personal observation, and from the testimony of gentlemen, unknown to each other, residing in different and distant parts of the United States. The circumstances by which I became first acquainted with this peculiar habit of the bird are as follows.

I had, in numerous instances, found in the nests of three or four particular species of birds, one egg, much larger and differently marked from those beside it; I had remarked that these odd-looking eggs were all of the same color, and marked nearly in the same manner, in whatever nest they lay; though frequently the eggs beside them were of a quite different tint: and I had also been told, in a vague way, that the Cow-bird laid in other birds' nests. At length I detected the female of this very bird in the nest of the Red-eyed Flycatcher, which nest is very small, and very singularly constructed; suspecting her purpose, I cautiously withdrew without disturbing her; and had the satisfaction to find, on my return, that the egg which she had just dropped corresponded as nearly as eggs of the same species usually do, in its size, tint and markings to those formerly taken notice of. Since that time I have found the young Cow Bunting, in many instances, in the nests of one or other of these small birds; I have seen these last followed by the young Cow-bird calling out clamorously for food, and often engaged in feeding it; and I have now, in a cage before me, a very fine one which six months ago I took from the nest of the Maryland Yellow-throat, and from which the figures of the young bird, and male Cow-bird in the plate were taken; the figure in the act of feeding it is the female Maryland Yellow-throat, in whose nest it was found. I claim, however, no merit for a discovery not originally my own, these singular habits having long been known to people of observation resident in the country, whose information, in this case, has preceded that of all our school philosophers and closet naturalists; to whom the matter has till now been totally unknown.

About the twenty-fifth of March, or early in April, the Cowpen-bird makes his first appearance in Pennsylvania from the south, sometimes in company with the Red-winged Blackbird, more frequently in detached parties, resting early in the morning, an hour at a time, on the tops of trees near streams of water, appearing solitary, silent and fatigued. They continue to be occasionally seen, in small solitary parties, particularly along creeks and banks of rivers, so late as the middle of June; after which we see no more of them until about the beginning

or middle of October, when they reappear in much larger flocks, generally accompanied by numbers of the Red-wings; between whom and the present species there is a considerable similarity of manners, dialect, and personal resemblance. In these aerial voyages, like other experienced navigators, they take advantage of the direction of the wind; and always set out with a favorable gale. My venerable and observing friend, Mr. Bartram, writes me on the 13th of October, as follows: "The day before yesterday, at the height of the north-east storm, prodigious numbers of the Cowpen-birds came by us, in several flights of some thousands in a flock; many of them settled on trees in the garden to rest themselves; and then resumed their voyage southward. There were a few of their *cousins*, the Red-wings, with them. We shot three, a male and two females."

From the early period at which these birds pass in the spring, it is highly probable that their migrations extend very far north. Those which pass in the months of March and April can have no opportunity of depositing their eggs here, there being not more than one or two of our small birds which build so early. Those that pass in May and June, are frequently observed loitering singly about solitary thickets, reconnoitering, no doubt, for proper nurses, to whose care they may commit the hatching of their eggs, and the rearing of their helpless orphans. Among the birds selected for this duty are the following, all of which are figured and described in this and the preceding volume: the Blue-bird, which builds in a hollow tree; the Chipping Sparrow, in a cedar bush; the Golden-crowned Thrush, on the ground, in the shape of an oven; the Red-eyed Flycatcher, a neat pensile nest, hung by the two upper edges on a small sapling, or drooping branch; the Yellow-bird, in the fork of an alder; the Maryland Yellow-throat, on the ground at the roots of briar bushes; the White-eyed Flycatcher, a pensile nest on the bending of a smilax vine; and the small Blue Gray Flycatcher, also a pensile nest, fastened to the slender twigs of a tree, sometimes at the height of fifty or sixty feet from the ground. The three last mentioned nurses are represented on the same plate with the bird now under consideration. There are, no doubt, others to whom the same charge is committed; but all these I have myself met with acting in that capacity.

Among these the Yellow-throat, and the Red-eyed Flycatcher, appear to be particular favorites; and the kindness and affectionate attention which these two little birds seem to pay to their nurslings, fully justify the partiality of the parents.

It is well known to those who have paid attention to the manners of birds, that after their nest is fully finished, a day or two generally elapses before the female begins to lay. This delay is in most cases necessary to give firmness to the yet damp materials and allow them time to

dry. In this state it is sometimes met with, and laid in by the Cow Bunting; the result of which I have invariably found to be the desertion of the nest by its rightful owner, and the consequent loss of the egg thus dropped in it by the intruder. But when the owner herself has begun to lay, and there are one or more eggs in the nest before the Cow Bunting deposits hers, the attachment of the proprietor is secured, and remains unshaken until incubation is fully performed, and the little stranger is able to provide for itself.

The well known practice of the young Cuckoo of Europe in turning out all the eggs and young which it feels around it, almost as soon as it is hatched, has been detailed in a very satisfactory and amusing manner by the amiable Dr. Jenner,* who has since risen to immortal celebrity, in a much nobler pursuit; and to whose genius and humanity the whole human race are under everlasting obligations. In our Cow Bunting, though no such habit has been observed, yet still there is something mysterious in the disappearance of the nurse's own eggs soon after the foundling is hatched, which happens regularly before all the rest. From twelve to fourteen days is the usual time of incubation with our small birds; but although I cannot exactly fix the precise period requisite for the egg of the Cow Bunting, I think I can say almost positively, that it is a day or two less than the shortest of the above-mentioned spaces! In this singular circumstance we see a striking provision of the Deity; for did this egg require a day or two more instead of so much less than those among which it has been dropped, the young it contained would in every instance most inevitably perish; and thus in a few years the whole species must become extinct. On the first appearance of the young Cow Bunting, the parent being frequently obliged to leave the nest to provide sustenance for the foundling, the business of incubation is thus necessarily interrupted; the disposition to continue it abates; nature has now given a new direction to the zeal of the parent, and the remaining eggs, within a day or two at most, generally disappear. In some instances, indeed, they have been found on the ground near, or below, the nest; but this is rarely the case.

I have never known more than one egg of the Cow Bunting dropped in the same nest. This egg is somewhat larger than that of the Bluebird, thickly sprinkled with grains of pale brown on a dirty white ground. It is of a size proportionable to that of the bird.

So extraordinary and unaccountable is this habit, that I have sometimes thought it might not be general among the whole of this species in every situation; that the extreme heat of our summers, though suitable enough for their young, might be too much for the comfortable residence of the parents; that, therefore, in their way to the north, through

* See Philosophical Transactions for 1788, Part II.

our climate, they were induced to secure suitable places for their progeny; and that in the regions where they more generally pass the summer, they might perhaps build nests for themselves, and rear their own young, like every other species around them. On the other hand, when I consider that many of them tarry here so late as the middle of June, dropping their eggs, from time to time, into every convenient receptacle; that in the states of Virginia, Maryland, Delaware, New Jersey and Pennsylvania, they uniformly retain the same habits; and, in short, that in all these places I have never yet seen or heard of their nest;—reasoning from these facts, I think I may safely conclude, that they never build one; and that in those remote northern regions their manners are the same as we find them here.

What reason Nature may have for this extraordinary deviation from her general practice, is, I confess, altogether beyond my comprehension. There is nothing singular to be observed in the anatomical structure of the bird that would seem to prevent or render it incapable of incubation. The extreme heat of our climate is probably one reason why in the months of July and August they are rarely to be seen here. Yet we have many other migratory birds that regularly pass through Pennsylvania to the north, leaving a few residents behind them; who, without exception, build their own nests and rear their own young. This part of the country also abounds with suitable food, such as they usually subsist on. Many conjectures indeed might be formed as to the probable cause; but all of them, that have occurred to me, are unsatisfactory and inconsistent. Future, and more numerous observations, made with care, particularly in those countries where they most usually pass the summer, may throw more light on this matter; till then we can only rest satisfied with the reality of the fact.

This species winters regularly in the lower parts of North and South Carolina, and Georgia; I have also met with them near Williamsburg, and in several other parts of Virginia. In January, 1809, I observed strings of them for sale in the market of Charleston, South Carolina. They often frequent corn and rice-fields in company with their cousins, as Mr. Bartram calls them, the Red-winged Blackbirds; but are more commonly found accompanying the cattle, feeding on the seeds, worms, &c., which they pick up amongst the fodder and from the excrements of the cattle, which they scratch up for this purpose. Hence they have pretty generally obtained the name of *Cowpen-birds*, *Cow-birds*, or *Cow Blackbirds*. By the naturalists of Europe they have hitherto been classed with the Finches; though improperly, as they have no family resemblance to that tribe sufficient to justify that arrangement. If we are to be directed by the conformation of their bill, nostrils, tongue, and claws, we cannot hesitate a moment in classing them with the Red-winged Blackbirds, *Oriolus Phœniceus*; not, however, as *Orioles*, but as

Buntings, or some new intermediate genus; the notes or dialect of the Cow Bunting and those of the Red-wings, as well as some other peculiarities of voice and gesticulation, being strikingly similar.

Respecting this extraordinary bird I have received communications from various quarters, all corroborative of the foregoing particulars. Among these is a letter from Dr. Potter of Baltimore, which as it contains some new and interesting facts, and several amusing incidents, illustrative of the character of the bird, I shall with pleasure lay before the reader, apologizing to the obliging writer for a few unimportant omissions, which have been anticipated in the preceding pages.

"I regret exceedingly that professional avocations have put it out of my power to have replied earlier to your favor of the 19th of September: and although I shall not now reflect all the light you desire, a faithful transcript from memoranda noted at the moment of observation, may not be altogether uninteresting.

"The *Fringilla peccoris*, is generally known in Maryland by the name of the Cow Blackbird; and none but the naturalist view it as a distinct species. It appears about the last of March, or first week in April; though sometimes a little earlier when the spring is unusually forward. It is less punctual in its appearance than many other of our migratory birds.

"It commonly remains with us till about the last of October; though unusually cold weather sometimes banishes it much earlier. It however sometimes happens that a few of them remain with us all winter, and are seen hovering about our barns and farm-yards when straitened for sustenance by snow or hard frost. It is remarkable that in some years I have not been able to discover one of them during the months of July and August; when they have suddenly appeared in September in great numbers. I have noticed this fact always immediately after a series of very hot weather, and then only. The general opinion is that they then retire to the deep recesses of the shady forest; but if this had been the fact, I should probably have discovered them in my rambles in every part of the woods. I think it more likely that they migrate further north till they find a temperature more congenial to their feelings, or find a richer repast in following the cattle in a better pasture.*

* "It may not be improper to remark here, that the appearance of this bird in spring is sometimes looked for with anxiety by the farmers. If the horned cattle happen to be diseased in spring they ascribe it to worms, and consider the pursuit of the birds as an unerring indication of the necessity of medicine. Although this hypothesis of the worms infesting the cattle so as to produce much disease is problematical, their superabundance at this season cannot be denied. The larvæ of several species are deposited in the vegetables when green, and the cattle are fed on them as fodder in winter. This furnishes the principal inducement for the

"In autumn we often find them congregated with the Marsh Blackbirds, committing their common depredations upon the ears of the Indian corn; and at other seasons the similarity of their pursuits in feeding introduces them into the same company. I could never observe that they would keep the company of any other bird.

"The Cowpen finch differs moreover in another respect from all the birds with which I am acquainted. After an observance of many years I could never discover anything like *pairing* or a mutual attachment between the sexes. Even in the season of love, when other birds are separated into pairs, and occupied in the endearing office of providing a receptacle for their offspring, the Fringillæ are seen feeding in odd as well as even numbers, from one to twenty, and discovering no more disposition towards perpetuating their species than birds of any other species at other seasons, excepting a promiscuous concubinage which pervades the whole tribe. When the female separates from the company, her departure is not noticed; no gallant partner accompanies her, nor manifests any solicitude in her absence; nor is her return greeted by that gratulatory tenderness that so eminently characterizes the males of other birds. The male proffers the same civilities to any female indiscriminately, and they are reciprocated accordingly, without exciting either resentment or jealousy in any of the party. This want of sexual attachment is not inconsistent with the general economy of this singular bird; for as they are neither their own architect, nor nurse of their own young, the degree of attachment that governs others would be superfluous.

"That the Fringilla never builds a nest for itself you may assert without the hazard of a refutation. I once offered a premium for the nest, and the negroes in the neighborhood brought me a variety of nests, but they were always traced to some other bird. The time of depositing their eggs is from the middle of April to the last of May, or nearly so; corresponding with the season of laying observed by the small birds, on whose property it encroaches. It never deposits but one egg in the same nest, and this is generally after the rightful tenant begins to deposit hers, but never I believe after she has commenced the process of incubation. It is impossible to say how many they lay in a season, unless they could be watched when confined in an aviary.

"By a minute attention to a number of these birds when they feed in a particular field in the laying season, the deportment of the female, when the time of laying draws near, becomes particularly interesting.

bird to follow the cattle in spring, when the aperient effect of the green grasses evacuates great numbers of worms. At this season the *pecoris* often stuffs its crop with them till it can contain no more. There are several species, but the most numerous is a small white one similar to, if not the same as, the *ascaris* of the human species."

She deserts her associates, assumes a drooping sickly aspect, and perches upon some eminence where she can reconnoitre the operations of other birds in the process of nidification. If a discovery suitable to her purpose cannot be made from her stand, she becomes more restless, and is seen flitting from tree to tree, till a place of deposit can be found. I once had an opportunity of witnessing a scene of this sort which I cannot forbear to relate. Seeing a female prying into a bunch of bushes in search of a nest, I determined to see the result, if practicable; and knowing how easily they are disconcerted by the near approach of man, I mounted my horse, and proceeded slowly, sometimes seeing and sometimes losing sight of her, till I had travelled nearly two miles along the margin of a creek. She entered every thick place, prying with the strictest scrutiny into places where the small birds usually build, and at last darted suddenly into a thick copse of alders and briars, where she remained five or six minutes, when she returned, soaring above the underwood, and returned to the company she had left feeding in the field. Upon entering the covert I found the nest of a Yellow-throat, with an egg of each. Knowing the precise time of deposit, I noted the spot and date with a view of determining a question of importance, the time required to hatch the egg of the Cow-bird, which I supposed to commence from the time of the Yellow-throat's laying the last egg. A few days after, the nest was removed I knew not how, and I was disappointed. In the progress of the Cow-bird along the creek's side she entered the thick boughs of a small cedar, and returned several times before she could prevail on herself to quit the place; and upon examination, I found a Sparrow sitting on its nest, on which she no doubt would have stolen in the absence of the owner. It is, I believe certain, that the Cowpen finch never makes a forcible entry upon the premises by attacking other birds and ejecting them from their rightful tenements, although they are all perhaps inferior in strength, except the Blue-bird, which, although of a mild as well as affectionate disposition, makes a vigorous resistance when assaulted. Like most other tyrants and thieves they are cowardly, and accomplish by stealth what they cannot obtain by force.

"The deportment of the Yellow-throat on this occasion is not to be omitted. She returned while I waited near the spot, and darted into her nest, but returned immediately and perched upon a bough near the place, remained a minute or two and entered it again, returned and disappeared. In ten minutes she returned with the male. They chattered with great agitation for half an hour, seeming to participate in the affront, and then left the place. I believe all the birds thus intruded on manifest more or less concern at finding the egg of a stranger in their own nests. Among these the Sparrow is particularly punctilious; for she sometimes chirps her complaints for a day or two, and often deserts the

premises altogether, even after she has deposited one or more eggs. The following anecdote will show not only that the Cowpen finch insinuates herself slyly into the nests of other birds, but that even the most pacific of them will resent the insult. A Blue-bird had built for three successive seasons in the cavity of a mulberry tree near my dwelling. One day when the nest was nearly finished, I discovered a female Cow-bird perched upon a fence stake near it, with her eyes apparently fixed upon the spot while the builder was busy in adjusting her nest. The moment she left it the intruder darted into it, and in five minutes returned and sailed off to her companions with seeming delight, which she expressed by her gestures and notes. The Blue-bird soon returned and entered the nest, but instantaneously fluttered back with much apparent hesitation, and perched upon the highest branch of the tree, uttering a rapidly repeated note of complaint and resentment, which soon brought the male, who reciprocated her feelings by every demonstration of the most vindictive resentment. They entered the nest together and returned several times, uttering their uninterrupted complaints for ten or fifteen minutes. The male then darted away to the neighboring trees as if in quest of the offender, and fell upon a Cat-bird, which he chastised severely, and then turned to an innocent Sparrow that was chanting its ditty in a peach tree. Notwithstanding the affront was so passionately resented, I found the Blue-bird had laid an egg the next day. Perhaps a tenant less attached to a favorite spot would have acted more fastidiously, by deserting the premises altogether. In this instance, also, I determined to watch the occurrences that were to follow, but on one of my morning visits I found the common enemy of the eggs and young of all the small birds had despoiled the nest, a Coluber was found coiled in the hollow, and the eggs sucked.

“Agreeably to my observation, all the young birds destined to cherish the young Cow-bird are of a mild and affectionate disposition; and it is not less remarkable, that they are all smaller than the intruder; the Blue-bird is the only one nearly as large. This is a good-natured mild creature, although it makes a vigorous defence when assaulted. The Yellow-throat, the Sparrow, the Goldfinch, the Indigo-bird, and the Blue-bird, are the only birds in whose nests I have found the eggs or the young of the Cowpen finch, though doubtless there are some others.

“What becomes of the eggs or young of the proprietor? This is the most interesting question that appertains to this subject. There must be some special law of nature which determines that the young of the proprietors are never to be found tenants in common with the young Cow-bird. I shall offer the result of my own experience on this point, and leave it to you and others better versed in the mysteries of nature than I am to draw your own conclusions. Whatever theory may be adopted the facts must remain the same. Having discovered a

Sparrow's nest with five eggs, four and one, and the Sparrow sitting, I watched the nest daily. The egg of the Cow-bird occupied the centre, and those of the Sparrow were pushed a little up the sides of the nest. Five days after the discovery I perceived the shell of the Finch's egg broken, and the next the bird was hatched. The Sparrow returned while I was near the nest, with her mouth full of food with which she fed the young Cow-bird with every possible mark of affection, and discovered the usual concern at my approach. On the succeeding day only two of the Sparrow's eggs remained, and the next day there were none. I sought in vain for them on the ground and in every direction.

"Having found the eggs of the Cow-bird in the nest of a Yellow-throat, I repeated my observations. The process of incubation had commenced, and on the seventh day from the discovery I found a young Cow-bird that had been hatched during my absence of twenty-four hours, all the eggs of the proprietor remaining. I had not an opportunity of visiting the nest for three days, and on my return there was only one egg remaining, and that rotten. The Yellow-throat attended the young interloper with the same apparent care and affection as if it had been its own offspring.

"The next year my first discovery was in a Blue-bird's nest built in a hollow stump. The nest contained six eggs, and the process of incubation was going on. Three or four days after my first visit I found a young Cow-bird, and three eggs remaining. I took the eggs out; two contained young birds apparently come to their full time, and the other was rotten. I found one of the other eggs on the ground at the foot of the stump, differing in no respect from those in the nest, no signs of life being discoverable in either.

"Soon after this I found a Goldfinch's nest with one egg of each only, and I attended it carefully till the usual complement of the owner were laid. Being obliged to leave home, I could not ascertain precisely when the process of incubation commenced; but from my reckoning, I think the egg of the Cow-bird must have been hatched in nine or ten days from the commencement of incubation. On my return I found the young Cow-bird occupying nearly the whole nest, and the foster mother as attentive to it as she could have been to her own. I ought to acknowledge here, that in none of these instances could I ascertain exactly the time required to hatch the Cow-bird's eggs; and that of course none of them are decisive; but is it not strange that the egg of the intruder should be so uniformly the first hatched? The idea of the egg being larger, and therefore from its own gravity finding the centre of the nest, is not sufficient to explain the phenomenon; for in this situation the other eggs would be proportionably elevated at the sides, and therefore receive as much or more warmth from the body of the

incumbent than the other.* This principle would scarcely apply to the eggs of the Blue-bird, for they are nearly of the same size; if there be any difference it would be in favor of the eggs of the builder of the nest. How do the eggs get out of the nest? Is it by the size and nestling of the young Cow-bird? This cannot always be the case; because in the instance of the Blue-bird's nest in the hollow stump, the cavity was a foot deep, the nest at the bottom, and the ascent perpendicular: nevertheless the eggs were removed although filled with young ones; moreover, a young Cowpen finch is as helpless as any other young bird, and so far from having the power of ejecting others from the nest, or even the eggs, that they are sometimes found on the ground under the nest, especially when the nest happens to be very small. I will not assert that the eggs of the builder of the nest are never hatched; but I can assert that I have never been able to find one instance to prove the affirmative. If all the eggs of both birds were to be hatched, in some cases the nest would not hold half of them; for instance, those of the Sparrow, or Yellow-bird. I will not assert that the supposititious egg is brought to perfection in less time than those of the bird to which the nest belongs; but from the fact stated, I am inclined to adopt such an opinion. How are the eggs removed after the accouchement of the spurious occupant? By the proprietor of the nest unquestionably; for this is consistent with the rest of her economy. After the power of hatching them is taken away by her attention to the young stranger, the eggs would be only an encumbrance, and therefore instinct prompts her to remove them. I might add, that I have sometimes found the eggs of the Sparrow, in which were unmatured young ones, lying near the nest, containing a Cow-bird, and therefore I cannot resist this conclusion. Would the foster parent feed two species of young at the same time? I believe not. I have never seen an instance of any bird feeding the young of another, unless immediately after losing her own. I should think the sooty looking stranger would scarcely interest a mother while the cries of her own offspring, always intelligible, were to be heard. Should such a competition ever take place, I judge the stranger would be the sufferer, and probably the species soon become extinct. Why the *lex nature conservatrix* should decide in favor of the surreptitious progeny is not for me to determine.

“As to the vocal powers of this bird, I believe its pretensions are very humble, none of its notes deserving the epithet musical. The sort of simple cackling complaint it utters at being disturbed, constitutes also the expression of its pleasure at finding its companions, varying

* The ingenious writer seems not to be aware that almost all birds are in the habit, while sitting, of changing the eggs from the centre to the circumference, and *vice versa*, that all of them may receive an equal share of warmth.

only in a more rapidly repeated monotony. The deportment of the male, during his promiscuous intercourse with the other sex, resembles much that of a pigeon in the same situation. He uses nearly the same gestures; and by attentively listening you will hear a low, guttural sort of muttering, which is the most agreeable of his notes, and not unlike the cooing of a pigeon. This, sir, is the amount of my information on this subject; and is no more than a transcript from my notes made several years ago. For ten years past since I have lived in this city, many of the impressions of nature have been effaced, and artificial ideas have occupied their places. The pleasure I formerly received in viewing and examining the objects of nature, are, however, not entirely forgotten; and those which remain, if they can interest you, are entirely at your service. With the sincerest wishes for the success of your useful and arduous undertaking,

“I am, dear sir,

“Yours, very respectfully,

“NATHANIEL POTTER.”

To the above very interesting detail I shall add the following recent fact which fell under my own observation, and conclude my account of this singular species.

In the month of July last I took from the nest of the Maryland Yellow-throat, which was built among the dry leaves at the root of a briar bush, a young male Cow Bunting, which filled and occupied the whole nest. I had previously watched the motions of the foster parents for more than an hour, in order to ascertain whether any more of their young were lurking about or not; and was fully satisfied that there were none. They had in all probability perished in the manner before mentioned. I took this bird home with me, and placed it in the same cage with a Red-bird (*Loria cardinalis*), who, at first, and for several minutes after, examined it closely, and seemingly with great curiosity. It soon became clamorous for food, and from that moment the Red-bird seemed to adopt it as his own, feeding it with all the assiduity and tenderness of the most affectionate nurse. When he found that the grasshopper which he had brought it was too large for it to swallow, he took the insect from it, broke it in small portions, chewed them a little to soften them, and with all the gentleness and delicacy imaginable put them separately into its mouth. He often spent several minutes in looking at and examining it all over, and in picking off any particles of dirt that he observed on its plumage. In teaching and encouraging it to learn to eat of itself, he often reminded me of the lines of Goldsmith,

He tried each art, reproved each dull delay,
Allured to “fav’rite food,” and led the way.

This Cow-bird is now six months old, is in complete plumage; and repays the affectionate services of his foster parent with a frequent display of all the musical talents with which nature has gifted him. These, it must be confessed, are far from being ravishing; yet for their singularity are worthy of notice. He spreads his wings, swells his body into a globular form, bristling every feather in the manner of a turkey cock, and with great seeming difficulty utters a few low, spluttering notes, as if proceeding from his belly; always, on these occasions, strutting in front of the spectator with great consequential affectation.

To see the Red-bird, who is himself so excellent a performer, silently listening to all this guttural splutter, reminds me of the great Handel contemplating a wretched cat-gut scraper. Perhaps, however, these may be meant for the notes of *love* and *gratitude*, which are sweeter to the ear, and dearer to the heart, than all the artificial solos or concertos on this side heaven.

The length of this species is seven inches, breadth eleven inches; the head and neck is of a very deep silky drab; the upper part of the breast a dark changeable violet; the rest of the bird is black, with a considerable gloss of green when exposed to a good light; the form of the bill is faithfully represented in the plate; it is evidently that of an *Emberiza*; the tail is slightly forked; legs and claws glossy black, strong and muscular; iris of the eye dark hazel. Catesby says of this bird, "it is all over of a brown color, and something lighter below;" a description that applies only to the female, and has been repeated in nearly the same words, by almost all succeeding ornithologists. The young male birds are at first altogether brown, and for a month, or more, are naked of feathers round the eye and mouth; the breast is also spotted like that of a Thrush, with light drab and darker streaks. In about two months after they leave the nest, the black commences at the shoulders of the wings, and gradually increases along each side, as the young feathers come out, until the bird appears mottled on the back and breast with deep black and light drab. At three months the colors of the plumage are complete, and, except in moulting, are subject to no periodical change.

SPECIES V. *EMBERIZA NIVALIS*.

SNOW BUNTING.

[Plate XXI. Fig. 2.]

LINN. *Syst.* 308.—*Arct. Zool.* p. 355, No. 222.—*Tawny Bunting*, *Br. Zool.* No. 121.
—*L'Ortolan de Neige*, BUFFON, IV. 329. *Pl. Enl.* 497.

THIS being one of those birds common to both continents, its migrations extending almost from the very pole, to a distance of forty or fifty degrees around; and its manners and peculiarities having been long familiarly known to the naturalists of Europe, I shall in this place avail myself of the most interesting parts of their accounts; subjoining such particulars as have fallen under my own observation.

“These birds,” says Mr. Pennant, “inhabit not only Greenland* but even the dreadful climate of Spitzbergen, where vegetation is nearly extinct, and scarcely any but *cryptogamous* plants are found. It therefore excites wonder, how birds, which are graminivorous in every other than those frost-bound regions, subsist: yet are there found in great flocks both on the land and ice of Spitzbergen.† They annually pass to this country by way of Norway; for in the spring, flocks innumerable appear, especially on the Norwegian isles; continue only three weeks, and then at once disappear.‡ As they do not breed in Hudson's Bay it is certain that many retreat to this last of lands, and totally uninhabited, to perform in full security the duties of love, incubation, and nutrition. That they breed in Spitzbergen is very probable; but we are assured that they do so in Greenland. They arrive there in April, and make their nests in the fissures of the rocks, on the mountains, in May; the outside of their nest is grass, the middle of feathers; and the lining the down of the Arctic fox. They lay five eggs, white spotted with brown: they sing finely near their nest.

“They are caught by the boys in autumn when they collect near the shores in great flocks, in order to migrate, and are eaten dried.§

“In Europe they inhabit during summer the most naked Lapland Alps; and descend in rigorous seasons into Sweden, and fill the roads and fields: on which account the Dalecarlians call them *illwarsfögel*, or

* Crantz, 1, 77. † Lord Mulgrave's Voyage, 188. Martin's Voyage, 73.

‡ Leems, 256.

§ Faun. Greenl. 118.

bad-weather birds. The Uplanders *hardwarsfogel*, expressive of the same. The Laplanders style them *Alaïpg*. Leems* remarks, I know not with what foundation, that they fatten on the flowing of the tides in Finmark; and grow lean on the ebb. The Laplanders take them in great numbers in hair-springs for the tables, their flesh being very delicate.

"They seem to make the countries within the whole Arctic circle their summer residence, from whence they overflow the more southern countries in amazing multitudes, at the setting in of winter in the frigid zone. In the winter of 1778-9, they came in such multitudes into *Birså*, one of the Orkney islands, as to cover the whole barony; yet of all the numbers hardly two agreed in colors.

"Lapland, and perhaps Iceland, furnishes the north of Briton with the swarms that frequent these parts during winter, as low as the Cheviot Hills, in lat. $52^{\circ} 32'$. Their resting places the *Feroe* isles, *Schotland* and the *Orkneys*. The highlands of Scotland, in particular, abound with them. Their flights are immense, and they mingle so closely together in form of a ball that the fowlers make great havoc among them. They arrive lean, soon become very fat, and are delicious food. They either arrive in the highlands very early, or a few breed there, for I had one shot for me at Invercauld, the fourth of August. But there is a certainty of their migration; for multitudes of them fall, wearied with their passage, on the vessels that are sailing through the Pentland frith.†

"In their summer dress they are sometimes seen in the south of England;‡ the climate not having severity sufficient to affect the colors; yet now and then a milk white one appears, which is usually mistaken for a white Lark.

"Russia and Siberia receive them in their severe seasons annually, in amazing flocks, overflowing almost all Russia. They frequent the villages, and yield a most luxurious repast. They vary there infinitely in their winter colors, are pure white, speckled, and even quite brown.§ This seems to be the influence of difference of age more than of season. Germany has also its share of them. In Austria they are caught and fed with millet, and afford the epicure a treat equal to that of the *Ortolan* ||

These birds appear in the northern districts of the United States, early in December, or with the first heavy snow, particularly if drifted by high winds. They are usually called the *White Snow-bird*, to distinguish them from the small dark bluish *Snow-bird* already described. Their numbers increase with the increasing severity of weather, and depth of snow. Flocks of them sometimes reach as far south as the

* Finmark, 255.

† Bishop Pocock's Journal, MS.

‡ Morton's Northamp. p. 427.

§ Bell's Travel's, 1, 198.

|| Kramer, Anim. Austr. 372.

borders of Maryland; and the whiteness of their plumage is observed to be greatest towards the depth of winter. They spread over the Genesee country and the interior of the district of Maine, flying in close compact bodies, driving about most in a high wind; sometimes alighting near the doors, but seldom sitting long, being a roving, restless bird. In these plentiful regions, where more valuable game is abundant, they hold out no temptation to the sportsman or hunter; and except the few caught by boys in snares, no other attention is paid to them. They are, however, universally considered as the harbingers of severe cold weather. How far westward they extend I am unable to say. One of the most intelligent and expert hunters who accompanied Captains Lewis and Clark on their expedition to the Pacific Ocean, informs me, that he has no recollection of seeing these birds in any part of their tour, not even among the bleak and snowy regions of the Stony Mountains; though the little blue one was in abundance.

The Snow Bunting derives a considerable part of its food from the seeds of certain aquatic plants, which may be one reason for its preferring these remote northern countries, so generally intersected with streams, ponds, lakes and shallow arms of the sea, that probably abound with such plants. In passing down the Seneca river towards Lake Ontario, late in the month of October, I was surprised by the appearance of a large flock of these birds feeding on the surface of the water, supported on the tops of a growth of weeds that rose from the bottom, growing so close together that our boat could with great difficulty make its way through them. They were running about with great activity; and those I shot and examined were filled, not only with the seeds of this plant, but with a minute kind of shell fish that adheres to the leaves. In these kind of aquatic excursions they are doubtless greatly assisted by the length of their hind heel and claws. I also observed a few on Table Rock, above the Falls of Niagara, seemingly in search of the same kind of food.

According to the statements of those traders who have resided near Hudson's Bay, the Snow Buntings are the earliest of their migratory birds, appearing there about the eleventh of April, staying about a month or five weeks, and proceeding farther north to breed. They return again in September; stay till November, when the severe frosts drive them southward.*

The summer dress of the Snow Bunting is a tawny brown, interspersed with white, covering the head, neck and lower parts; the back is black, each feather being skirted with brown; wings and tail also black, marked in the following manner:—the three secondaries next the body are bordered with bay, the next with white, and all the rest of the

* Lond. Phil. Trans. LXII. 403.

secondaries, as well as their coverts, and shoulder of the wing, pure white; the first six primaries are black from their coverts downwards to their extremities; tail forked, the three exterior feathers, on each side, white, marked on the outer edge, near the tip, with black; the rest nearly all black; tail coverts reddish brown, fading into white; bill pale brown; legs and feet black; hind claw long like that of the Lark, though more curved. In winter they become white on the head, neck and whole under side, as well as great part of the wings and rump, the back continues black skirted with brown. Some are even found pure white. Indeed so much does their plumage vary according to age and season, that no two are found at any time alike.

SPECIES VI. *EMBERIZA CIRIS*.

PAINTED BUNTING.

[Plate XXIV. Fig. 1, Male.—Fig. 2, Female.]

LINN. *Syst.* 313.—*Painted Finch*, CATESBY, I., 44.—EDW. 130, 173.—*Arct. Zool.* p. 362, No. 226.—*Le Verdier de la Louisiane, dit vulgairement le Pape*, BRISSON, III., 200, *App.* 74.—BUFFON, IV., 76, *Pl. Enl.* 159.—LATH. II., 206.—*Linaria ciris, the Painted Finch, or Nonpareil*, BARTRAM, p. 291.

THIS is one of the most numerous of the little summer birds of Lower Louisiana, where it is universally known among the French inhabitants, and called by them "*Le Pape*," and by the Americans the *Nonpareil*. Its gay dress and docility of manners have procured it many admirers; for these qualities are strongly attractive, and carry their own recommendations always along with them. The low countries of the Southern States, in the vicinity of the sea, and along the borders of our large rivers, particularly among the rice plantations, are the favorite haunts of this elegant little bird. A few are seen in North Carolina; in South Carolina they are more numerous; and still more so in the lower parts of Georgia. To the westward I first met them at Natchez, on the Mississippi, where they seemed rather scarce. Below Baton Rouge, along the levee, or embankment of the river, they appeared in greater numbers; and continued to become more common as I approached New Orleans, where they were warbling from almost every fence, and crossing the road before me every few minutes. Their notes very much resemble those of the Indigo Bird (Plate VI., fig. 6); but want the strength and energy of the latter, being more feeble and more concise.

I found these birds very commonly domesticated in the houses of the French inhabitants of New Orleans; appearing to be the most common

cage bird they have. The negroes often bring them to market from the neighboring plantations, for sale; either in cages, taken in traps, or in the nest. A wealthy French planter, who lives on the banks of the Mississippi, a few miles below *Bayo Fourche*, took me into his garden, which is spacious and magnificent, to show me his aviary; where, among many of our common birds, I observed several Nonpareils, two of which had nests, and were then hatching.

Were the same attention bestowed on these birds as on the Canary, I have no doubt but they would breed with equal facility, and become equally numerous and familiar, while the richness of their plumage might compensate for their inferiority of song. Many of them have been transported to Europe; and I think I have somewhere read that in Holland attempts have been made to breed them and with success. When the employments of the people of the United States become more sedentary, like those of Europe, the innocent and agreeable amusement of keeping and rearing birds in this manner, will become more general than it is at present, and their manners better known. And I cannot but think, that an intercourse with these little innocent warblers is favorable to delicacy of feeling, and sentiments of humanity; for I have observed the rudest and most savage softened into benevolence while contemplating the interesting manners of these inoffensive little creatures.

Six of these birds, which I brought with me from New Orleans by sea, soon became reconciled to the cage. In good weather the males sung with great sprightliness, though they had been caught only a few days before my departure. They were greedily fond of flies, which accompanied us in great numbers during the whole voyage; and many of the passengers amused themselves with catching these and giving them to the Nonpareils; till at length the birds became so well acquainted with this amusement, that as soon as they perceived any of the people attempting to catch flies, they assembled at the front of the cage, stretching out their heads through the wires with eager expectation, evidently much interested in the issue of their success.

These birds arrive in Louisiana from the south about the middle of April, and begin to build early in May. In Savannah, according to Mr. Abbot, they arrive about the twentieth of April. Their nests are usually fixed in orange hedges, or on the lower branches of the orange tree; I have also found them in a common bramble or blackberry bush. They are formed exteriorly of dry grass, intermingled with the silk of caterpillars, lined with hair, and lastly with some extremely fine roots of plants. The eggs are four or five, white, or rather pearl colored, marked with purplish brown specks. As some of these nests had eggs so late as the twenty-fifth of June, I think it probable that they sometimes raise two broods in the same season. The young birds of both

sexes, during the first season, are of a fine green olive above, and dull yellow below. The females undergo little or no change, but that of becoming of a more brownish cast. The males, on the contrary, are long and slow in arriving at their full variety of colors. In the second season the blue on the head begins to make its appearance, intermixed with the olive green. The next year the yellow shows itself on the back and rump; and also the red, in detached spots, on the throat and lower parts. All these colors are completed in the fourth season, except, sometimes, that the green still continues on the tail. On the fourth and fifth season the bird has attained his complete colors, and appears then as represented in the plate (fig. 1). No dependence, however, can be placed on the regularity of this change in birds confined in a cage, as the want of proper food, sunshine, and variety of climate, all conspire against the regular operations of nature.

The Nonpareil is five inches and three quarters long, and eight inches and three quarters in extent; head, neck above, and sides of the same, a rich purplish blue; eyelid, chin, and whole lower parts, vermilion; back and scapulars glossy yellow, stained with rich green, and in old birds with red; lesser wing coverts purple; larger green; wings dusky red, sometimes edged with green; lower part of the back, rump and tail coverts deep glossy red, inclining to carmine; tail slightly forked, purplish brown (generally green); legs and feet leaden gray; bill black above, pale blue below; iris of the eye hazel.

The female (fig. 2) is five and a half inches long, and eight inches in extent; upper parts green olive, brightest on the rump; lower parts a dusky Naples yellow, brightest on the belly, and tinged considerably on the breast with dull green, or olive; cheeks or ear-feathers marked with lighter touches; bill wholly a pale lead color, lightest below; legs and feet the same.

The food of these birds consists of rice, insects, and various kinds of seeds that grow luxuriantly in their native haunts. I also observed them eating the seeds or internal grains of ripe figs. They frequent gardens, building within a few paces of the house; are particularly attached to orangeries; and chant occasionally during the whole summer. Early in October they retire to more southern climates, being extremely susceptible of cold.

SPECIES VII. *EMBERIZA LEUCOPHRYS*.
WHITE-CROWNED BUNTING.

[Plate XXXI. Fig. 4.]

TURTON, *Syst.* p. 536.*

THIS beautifully marked species is one of the rarest of its tribe in the United States, being chiefly confined to the northern districts, or higher interior parts of the country, except in severe winters, when some few wanderers appear in the lower parts of the state of Pennsylvania. Of three specimens of this bird, the only ones I have yet met with, the first was caught in a trap near the city of New York, and lived with me several months. It had no song, and, as I afterwards discovered, was a female. Another, a male, was presented to me by Mr. Michael, of Lancaster, Pennsylvania. The third, a male, and in complete plumage, was shot in the Great Pine Swamp, in the month of May, and is faithfully represented in the plate. It appeared to me to be unsuspicious, silent and solitary; flitting in short flights among the underwood and piles of prostrate trees torn up by a tornado, that some years ago passed through the swamp. All my endeavors to discover the female or nest were unsuccessful.

From the great scarcity of this species our acquaintance with its manners is but very limited. Those persons who have resided near Hudson's Bay, where it is common, inform us, that it makes its nest in June, at the bottom of willows, and lays four chocolate-colored eggs. Its flight is said to be short and silent; but when it perches it sings very melodiously.†

The White-crowned Bunting is seven inches long, and ten inches in extent; the bill a cinnamon brown; crown from the front to the hind head pure white, bounded on each side by a stripe of black proceeding from each nostril; and these again are bordered by a stripe of pure white passing over each eye to the hind head, where they meet; below this another narrow stripe of black passes from the posterior angle of the eye, widening as it descends to the hind head; chin white; breast, sides

* Synonymes: *Emberiza leucophrys*, Gmel. *Syst.* i., p. 874.—LATH. *Syn.* iii., p. 200, 44. *Id.* *Sup.* p. 159.—*Id.* *Ind.* i., p. 413.—*White-Crowned Bunting*, *Arct. Zool.* ii., No. 22.

† *Arct. Zool.*

of the neck, and upper parts of the same, very pale ash; back streaked laterally with dark rusty brown and pale bluish white; wings dusky, edged broadly with brown; the greater and lesser coverts tipped broadly with white, forming two handsome bands across the wing; tertials black, edged with brown and white; rump and tail coverts drab, tipped with a lighter tint; tail long, rounded, dusky, and edged broadly with drab; belly white; vent pale yellow ochre; legs and feet reddish brown; eye reddish hazel, lower eyelid white.

The female may easily be distinguished from the male, by the white on the head being less pure, the black also less in extent, and the ash on the breast darker; she is also smaller in size.

There is a considerable resemblance between this species and the White-throated Sparrow, yet they rarely associate together; the latter remaining in the lower parts of Pennsylvania in great numbers, until the beginning of May, when they retire to the north and to the high inland regions to breed; the former inhabiting much more northern countries; and though said to be common in Canada, rarely visiting this part of the United States.

SPECIES VIII. *EMBERIZA GRAMINEA*.

BAY-WINGED BUNTING.

[Plate XXXI. Fig. 5.]

Grass Finch, Arct. Zool. No. 253.—LATH. III., 273.—TURTON, *Syst.* 1, p. 565.

THE manners of this bird bear great affinity to those of the common Bunting of Britain. It delights in frequenting grass and clover fields, perches on the tops of the fences, singing from the middle of April to the beginning of July, with a clear and pleasant note, in which particular it far excels its European relation. It is partially a bird of passage here, some leaving us and others remaining with us during the winter. In the month of March I observed them numerous in the lower parts of Georgia, where, according to Mr. Abbot, they are only winter visitants. They frequent the middle of fields more than hedges or thickets; run along the ground like a Lark, which they also resemble in the great breadth of their wings; they are timid birds; and rarely approach the farm house.

Their nest is built on the ground, in a grass or clover field, and formed of old withered leaves and dry grass; and lined with hair. The female lays four or five eggs of a grayish white. On the first week in May I

found one of their nests with four young, from which circumstance I think it probable that they raise two or more broods in the same season.

This bird measures five inches and three quarters in length, and ten inches and a half in extent; the upper parts are cinereous brown, mottled with deep brown or black; lesser wing coverts bright bay, greater black, edged with very pale brown; wings dusky, edged with brown; the exterior primary edged with white; tail sub-cuneiform, the outer feather white on the exterior edge, and tipped with white, the next tipped and edged for half an inch with the same, the rest dusky, edged with pale brown; bill dark brown above, paler below; round the eye is a narrow circle of white; upper part of the breast yellowish white, thickly streaked with pointed spots of black that pass along the sides; belly and vent white; legs and feet flesh colored; third wing feather from the body nearly as long as the tip of the wing when shut.

I can perceive little or no difference between the colors and markings of the male and female.

GENUS XXXVII. TANAGRA. TANAGER.

SPECIES I. *T. RUBRA*.

SCARLET TANAGER.

[Plate XI. Figs. 3 and 4.]

Tanagra rubra, LINN. *Syst.* I., p. 314, 3.—*Cardinal de Canada*, BRISS. *Orn.* III., p. 48, *Pl.* 2, fig. 5.—LATH. II., p. 217, No. 3.—*Scarlet Sparrow*, EDW. *Pl.* 343.—*Canada Tanager*, and *Olive Tanager*, ARCT. *Zool.* p. 369, No. 237-238.

THIS is one of the gaudy foreigners (and perhaps the most showy) that regularly visit us from the torrid regions of the south. He is dressed in the richest scarlet, set off with the most jetty black, and comes, over extensive countries, to sojourn for a time among us. While we consider him entitled to all the rights of hospitality, we may be permitted to examine a little into his character, and endeavor to discover, whether he has anything else to recommend him besides that of having a fine coat, and being a great traveller.

On or about the first of May this bird makes his appearance in Pennsylvania. He spreads over the United States, and is found even in Canada. He rarely approaches the habitations of man, unless perhaps to the orchard, where he sometimes builds; or to the cherry trees in search of fruit. The depth of the woods is his favorite abode. There, among the thick foliage of the tallest trees, his simple and almost monotonous notes, *chip, churr*, repeated at short intervals, in a pensive

tone, may be occasionally heard ; which appear to proceed from a considerable distance though the bird be immediately above you ; a faculty bestowed on him by the beneficent Author of Nature, no doubt for his protection ; to compensate in a degree for the danger to which his glowing color would often expose him. Besides this usual note, he has, at times, a more musical chant, something resembling in mellowness that of the Baltimore Oriole. His food consists of large, winged insects, such as wasps, hornets and humble-bees, and also of fruit, particularly those of that species of *Vaccinium* usually called huckle-berries, which in their season form almost his whole fare. His nest is built about the middle of May, on the horizontal branch of a tree, sometimes an apple tree, and is but slightly put together ; stalks of broken flax, and dry grass, so thinly wove together that the light is easily perceivable through it, form the repository of his young. The eggs are three, of a dull blue, spotted with brown or purple. They rarely raise more than one brood in a season, and leave us for the south about the last week in August.

Among all the birds that inhabit our woods there is none that strike the eye of a stranger, or even a native, with so much brilliancy as this. Seen among the green leaves, with the light falling strongly on his plumage, he really appears beautiful. If he has little of melody in his notes to charm us, he has nothing in them to disgust. His manners are modest, easy, and inoffensive. He commits no depredations on the property of the husbandman ; but rather benefits him by the daily destruction in spring of many noxious insects ; and when winter approaches he is no plundering dependant, but seeks in a distant country for that sustenance which the severity of the season denies to his industry in this. He is a striking ornament to our rural scenery, and none of the meanest of our rural songsters. Such being the true traits of his character, we shall always with pleasure welcome this beautiful, inoffensive stranger, to our orchards, groves and forests.

The male of this species, when arrived at his full size and colors, is six inches and a half in length, and ten and a half broad. The whole plumage is of a most brilliant scarlet, except the wings and tail, which are of a deep black ; the latter handsomely forked, sometimes minutely tipped with white, and the interior edges of the wing feathers nearly white ; the bill is strong, considerably inflated like those of his tribe, the edge of the upper mandible somewhat irregular, as if toothed, and the whole of a dirty gamboge or yellowish horn color ; this however, like that of most other birds, varies according to the season. About the first of August he begins to moult ; the young feathers coming out of a greenish yellow color, until he appears nearly all dappled with spots of scarlet and greenish yellow. In this state of plumage he leaves us. How long it is before he recovers his scarlet dress, or whether he continues of this greenish color all winter, I am unable to say. The iris

of the eye is of a cream color, the legs and feet light blue. The female (now I believe for the first time figured) is green above and yellow below; the wings and tail brownish black, edged with green. The young birds, during their residence here the first season, continue nearly of the same color with the female. In this circumstance we again recognise the wise provision of the Deity, in thus clothing the female and the inexperienced young, in a garb so favorable for concealment among the foliage; as the weakness of the one, and the frequent visits of the other to her nest, would greatly endanger the safety of all. That the young males do not receive their red plumage until the early part of the succeeding spring, I think highly probable, from the circumstance of frequently finding their red feathers, at that season, intermixed with green ones, and the wings also broadly edged with green. These facts render it also probable that the old males regularly change their color, and have a summer and winter dress; but this, farther observations must determine.

There is in the Brazils a bird of the same genus with this, and very much resembling it, so much so as to have been frequently confounded with it by European writers. It is the *Tanagra Brazilia* of Turton; and though so like, is a yet very distinct species from the present, as I have myself had the opportunity of ascertaining, by examining two very perfect specimens from Brazil, now in the possession of Mr. Peale, and comparing them with this. The principal differences are these: the plumage of the Brazilian is almost black at bottom, very deep scarlet at the surface, and of an orange tint between; ours is ash colored at bottom, white in the middle, and bright scarlet at top. The tail of ours is *forked*, that of the other cuneiform or *rounded*. The bill of our species is more inflated, and of a greenish yellow color—the other's is black above, and whitish below towards the base. The whole plumage of the southern species is of a coarser, stiffer quality, particularly on the head. The wings and tail, in both, are black.

In the account which Buffon gives of the Scarlet Tanager, and Cardinal Grosbeak, there appears to be very great confusion, and many mistakes; to explain which it is necessary to observe, that Mr. Edwards in his figure of the Scarlet Tanager, or Scarlet Sparrow as he calls it, has given it a hanging crest, owing no doubt to the loose disordered state of the plumage of the stuffed or dried skin from which he made his drawing. Buffon has afterwards confounded the two together by applying many stories originally related of the Cardinal Grosbeak, to the Scarlet Tanager; and the following he gravely gives as his reason for so doing: "We may presume," says he, "that when travellers talk of the warble of the Cardinal they mean the Scarlet Cardinal, for the other Cardinal is of the genus of the Grosbeaks, consequently a silent bird."*

* Buffon, vol. iv., p. 209.

This *silent* bird, however, has been declared by an eminent English naturalist, to be almost equal to their own Nightingale! The Count also quotes the following passage from Charlevoix to prove the same point, which if his translator had done him justice, evidently proves the reverse: "It is scarcely more than a hundred leagues," says this traveller, "*south of Canada*, that the Cardinal begins to be seen. Their song is sweet, their plumage beautiful, and their head wears a crest." But the Scarlet Tanager is found even in Canada, as well as an hundred leagues to the south, while the Cardinal Grosbeak is not found in any great numbers north of Maryland. The latter therefore, it is highly probable, was the bird meant by Charlevoix, and not the Scarlet Tanager. Buffon also quotes an extract of a letter from Cuba, which, if the circumstance it relates be true, is a singular proof of the estimation in which the Spaniards hold the Cardinal Grosbeak. "On Wednesday arrived at the port of Havana a bark from Florida, loaded with Cardinal birds, skins and fruit. The Spaniards bought the Cardinal birds at so high a price as ten dollars a piece; and notwithstanding the public distress spent on them the sum of 18,000 dollars!"*

With a few facts more I shall conclude the history of the Scarlet Tanager. When you approach the nest, the male keeps cautiously at a distance, as if fearful of being seen; while the female hovers around in the greatest agitation and distress. When the young leave the nest the male parent takes a most active part in feeding and attending them, and is then altogether indifferent of concealment.

Passing through an orchard one morning I caught one of these young birds that had but lately left the nest. I carried it with me about half a mile, to show it to my friend Mr. William Bartram; and having procured a cage, hung it up on one of the large pine trees in the Botanic garden, within a few feet of the nest of an *Orchard Oriole*, which also contained young; hoping that the charity, or tenderness of the Orioles, would induce them to supply the cravings of the stranger. But charity with them, as with too many of the human race, began and ended *at home*. The poor orphan was altogether neglected, notwithstanding its plaintive cries; and, as it refused to be fed by me, I was about to return it back to the place where I found it; when, towards the afternoon, a Scarlet Tanager, no doubt its own parent, was seen fluttering round the cage, endeavoring to get in. Finding this impracticable he flew off, and soon returned with food in his bill; and continued to feed it till after sunset, taking up his lodgings on the higher branches of the same tree. In the morning, almost as soon as day broke, he was again seen most actively engaged in the same affectionate manner; and, notwithstanding the insolence of the Orioles, continued his benevolent offices

* Gmelli Careri.

the whole day, roosting at night as before. On the third or fourth day, he appeared extremely solicitous for the liberation of his charge, using every expression of distressful anxiety, and every call and invitation that nature had put in his power for him to come out. This was too much for the feelings of my venerable friend; he procured a ladder, and mounting to the spot where the bird was suspended, opened the cage, took out the prisoner, and restored him to liberty and to his parent, who with notes of great exultation accompanied his flight to the woods. The happiness of my good friend was scarcely less complete, and showed itself in his benevolent countenance; and I could not refrain saying to myself—If such sweet sensations can be derived from a simple circumstance of this kind, how exquisite, how unspeakably rapturous must the delight of those individuals have been, who have rescued their fellow beings from death, chains and imprisonment, and restored them to the arms of their friends and relations! Surely in such godlike actions virtue is its own most abundant reward.

SPECIES II. *TANAGRA ÆSTIVA*.

SUMMER RED-BIRD.

[Plate VI. Fig. 3, Male. Fig. 4, Female.]

Tanagra Mississippensis, LATH. Ind. Orn. I., 421, 5.—*Mexican Tanager*, LATHAM, Syn. III., 219, 5, B.—*Tanagra variegata*, Ind. Orn. I., 421, 6.—*Tanagra æstiva*, Ind. Orn. I., 422, 7.—*Muscicapa rubra*, LINN. Syst. I., 326, 8.—BUFF. VI. 252, Pl. Enl. 741.—CATESB. Car. I., 56.—*Merula flammula*, Sandhill Red-bird, BARTRAM, 299.

THE change of color which this bird is subject to during the first year, and the imperfect figure first given of it by Catesby, have deceived the European naturalists so much, that four different species have been formed out of this one, as appears by the above synonymes, all of which are referable to the present species, the Summer Red-bird. As the female differs so much in color from the male, it has been thought proper to represent them both; the female having never to my knowledge appeared in any former publication; and all the figures of the other, that I have seen, being little better than *caricatures*, from which a foreigner can form no just conception of the original.

The male of the Summer Red-bird (fig. 3), is wholly of a rich vermilion color, most brilliant on the lower parts, except the inner vanes and tips of the wings, which are of a dusky brown; the bill is disproportionably large, and inflated, the upper mandible furnished with a process, and the whole bill of a yellowish horn color; the legs and feet

are light blue, inclining to purple; the eye large, the iris of a light hazel color; the length of the whole bird seven inches and a quarter, and between the tips of the expanded wings twelve inches. The female (fig. 4), differs little in size from the male; but is above of a brownish yellow olive, lightest over the eye; throat, breast, and whole lower part of the body of a dull orange yellow; tips and interior vanes of the wings brown; bill, legs, and eye as in the male. The nest is built in the woods on the horizontal branch of a half-grown tree, often an evergreen, at the height of ten or twelve feet from the ground, composed outwardly of broken stalks of dry flax, and lined with fine grass; the female lays three light blue eggs; the young are produced about the middle of June; and I suspect that the same pair raise no more than one brood in a season, for I have never found their nests but in May or June. Towards the middle of August they take their departure for the south, their residence here being scarcely four months. The young are at first of a green olive above, nearly the same color as the female below, and do not acquire their full tints till the succeeding spring or summer.

The change, however, commences the first season before their departure. In the month of August the young males are distinguished from the females by their motleyed garb; the yellow plumage below, as well as the olive green above, first becoming stained with spots of a buff color, which gradually brighten into red; these being irregularly scattered over the whole body, except the wings and tail, particularly the former, which I have often found to contain four or five green quills in the succeeding June. The first of these birds I ever shot was green-winged; and conceiving it at that time to be a nondescript, I made a drawing of it with care; and on turning to it at this moment I find the whole of the primaries, and two of the secondaries yellowish green, the rest of the plumage a full red. This was about the middle of May. In the month of August, of the same year, being in the woods with the gun, I perceived a bird of very singular plumage, and having never before met with such an oddity, instantly gave chase to it. It appeared to me, at a small distance, to be sprinkled all over with red, green, and yellow. After a great deal of difficulty, for the bird had taken notice of my eagerness, and had become extremely shy, I succeeded in bringing it down; and found it to be a young bird of the same species with the one I had killed in the preceding May, but less advanced to its fixed colors; the wings entirely of a greenish yellow, and the rest of the plumage spotted in the most irregular manner, with red, yellow, brown, and greenish. This is the *variegated* Tanager, referred to in the synonymes prefixed to this article. Having, since that time, seen them in all their stages of color, during their residence here, I have the more satisfaction in assuring the reader that the whole four species mentioned

by Dr. Latham are one and the same. The two figures in our plate represent the male and female in their complete plumage, and of their exact size.

The food of these birds consists of various kinds of bugs, and large black beetles. In several instances I have found the stomach entirely filled with the broken remains of humble bees. During the season of whortle-berries they seem to subsist almost entirely on these berries; but in the early part of the season on insects of the above description. In Pennsylvania they are a rare species, having myself sometimes passed a whole summer without seeing one of them; while in New Jersey, even within half a mile of the shore opposite the city of Philadelphia, they may generally be found during the season.

The note of the male is a strong and sonorous whistle, resembling a loose trill or shake on the notes of a fife, frequently repeated; that of the female is rather a kind of chattering, approaching nearly to the rapid pronunciation of *chicky-tucky-tuck, chicky-tucky-tuck*, when she sees any person approaching the neighborhood of her nest. She is, however, rarely seen, and usually mute, and scarcely to be distinguished from the color of the foliage at a distance; while the loquacity and brilliant red of the male make him very conspicuous; and when seen among the green leaves, particularly if the light falls strongly on his plumage, he has a most beautiful and elegant appearance. It is worthy of remark, that the females of almost all our splendid feathered birds are dressed in plain and often obscure colors, as if Providence meant to favor their personal concealment, and consequently that of their nest and young from the depredations of birds of prey; while among the latter, such as Eagles, Owls, Hawks, &c., which are under no such apprehension, the females are uniformly covered with richer colored plumage than the males.

The Summer Red-bird delights in a flat sandy country covered with wood, and interspersed with pine trees, and is consequently more numerous towards the shores of the Atlantic than in the interior. In both Carolinas, and in Georgia and Florida, they are in great plenty. In Mexico some of them are probably resident, or at least winter there; as many other of our summer visitants are known to do. In the Northern States they are very rare; and I do not know that they have been found either in Upper or Lower Canada. Du Pratz, in his History of Louisiana, has related some particulars of this bird, which have been repeated by almost every subsequent writer on the subject, viz. that "it inhabits the woods on the Mississippi, and collects against winter a vast magazine of maize, which it carefully conceals with dry leaves, leaving only a small hole for entrance; and is so jealous of it, as never to quit its neighborhood except to drink." It is probable, though I cannot corroborate the fact, that individuals of this species may winter

near the Mississippi; but that in a climate so moderate, and where such an exuberance of fruits, seeds, and berries are to be found, even during winter, this or any other bird should take so much pains in hoarding a vast quantity of Indian corn, and attach itself so closely to it, is rather apocryphal. The same writer, vol. ii. p. 24, relates similar particulars of the Cardinal Grosbeak (*Loxia Cardinalis*), which, though it winters in Pennsylvania, where the climate is much more severe, and where the length and rigors of that season would require a far larger magazine, and be a three-fold greater stimulus to hoarding, yet has no such habit here. Besides I have never found a single grain of Indian corn in the stomach of the Summer Red-bird; though I have examined many individuals of both sexes. On the whole, I consider this account of Du Pratz's in much the same light with that of his countryman Charlevoix, who gravely informs us, that the Owls of Canada lay up a store of live mice for winter, the legs of which they first break, to prevent them from running away, and then feed them carefully, and fatten them, till wanted for use.*

Its manners, though neither its bill nor tongue, partake very much of those of the Flycatcher; for I have frequently observed both male and female, a little before sunset, in parts of the forest clear of under-wood, darting after winged insects, and continuing thus engaged till it was almost dusk.

SPECIES III. *TANAGRA LUDOVICIANA*.

LOUISIANA TANAGER.

[Plate XX. Fig. 1.]

THIS bird, and the two others that occupy the same plate, were discovered in the remote regions of Louisiana, by an exploring party under the command of Captain George Merriwether Lewis, and Lieutenant, now General, William Clark, in their memorable expedition across the continent to the Pacific Ocean. They are entitled to a distinguished place in the pages of AMERICAN ORNITHOLOGY, both as being till now, altogether unknown to naturalists, and as natives of what *is*, or at least *will* be, and that at no distant period, part of the western territory of the United States.

The frail remains of the bird now under consideration, as well as of the other two, have been set up by Mr. Peale, in his Museum, with as

* Travels in Canada, Vol. I, p. 239. Lond. 1761, 8vo.

much neatness as the state of the skins would permit. Of three of these, which were put into my hands for examination, the most perfect was selected for the drawing. Its size and markings were as follow. Length six inches and a half; back, tail, and wings black; the greater wing-coverts tipped with yellow, the next superior row wholly yellow; neck, rump, tail-coverts and whole lower parts greenish yellow; fore-part of the head to and beyond the eyes, light scarlet; bill yellowish horn color; edges of the upper mandible ragged, as in the rest of its tribe; legs light blue; tail slightly forked, and edged with dull whitish: the whole figure about the size, and much resembling in shape, the Scarlet Tanager (Plate XI, fig. 3.); but evidently a different species, from the black back, and yellow coverts. Some of the feathers on the upper part of the back were also skirted with yellow. A skin of what I suppose to be the female, or a young bird, differed in having the wings and back brownish; and in being rather less.

The family, or genus, to which this bird belongs, is particularly subject to changes of color, both progressively, during the first and second seasons; and also periodically, afterwards. Some of those that inhabit Pennsylvania change from an olive green to a greenish yellow; and, lastly, to a brilliant scarlet; and I confess when the preserved specimen of the present species was first shown me, I suspected it to have been passing through a similar change at the time it was taken. But having examined two more skins of the same species, and finding them all marked very nearly alike, which is seldom the case with those birds that change while moulting, I began to think that this might be its most permanent, or at least its summer or winter dress.

The little information I have been able to procure of the species generally, or at what particular season these were shot, prevents me from being able to determine this matter to my wish.

I can only learn, that they inhabit the extensive plains or prairies of the Missouri, between the Osage and Mandan nations; building their nests in low bushes, and often among the grass. With us the Tanagers usually build on the branches of a hickory or white oak sapling. These birds delight in various kinds of berries with which those rich prairies are said to abound.

GENUS XXXVIII. FRINGILLA. FINCH.

SPECIES I. *F. TRISTIS.*

YELLOW-BIRD, OR GOLDFINCH.

[Plate I. Fig. 2.]

LINN. *Syst.* I., p. 320.—*Carduelis Americana*, BRISS. III., p. 64.—*Le Chardonneret jaune*, BUFF. IV., p. 112, *Pl. Enl.* 202, f. 2.—*American Goldfinch*, *Arct. Zool.* II., No. 242.—EWD. 274.—LATH. *Syn.* III., p. 288, 57.—*Id. Sup.* p. 166.—BARTRAM, p. 290.

THIS bird is four inches and a half in length, and eight inches in extent; of a rich lemon yellow, fading into white towards the rump and vent. The wings and tail are black, the former tipped and edged with white, the interior webs of the latter are also white; the fore part of the head is black; the bill and legs of a reddish cinnamon color. This is the summer dress of the male; but in the month of September, the yellow gradually changes to a brown olive, and the male and female are then nearly alike. They build a very neat and delicately formed little nest, which they fasten to the twigs of an apple tree, or to the strong branching stalks of hemp, covering it on the outside with pieces of lichen, which they find on the trees and fences; these they glue together with their saliva, and afterwards line the inside with the softest downy substances they can procure. The female lays five eggs, of a dull white, thickly marked at the greater end; and they generally raise two broods in a season. The males do not arrive at their perfect plumage until the succeeding spring; wanting, during that time, the black on the head; and the white on the wings being of a cream color. In the month of April they begin to change their winter dress, and before the middle of May appear in brilliant yellow: the whole plumage towards its root is of a dusky bluish black.

The song of the Yellow-bird resembles that of the Goldfinch of Britain; but is in general so weak as to appear to proceed from a considerable distance, when perhaps the bird is perched on the tree over your head. I have, however, heard some sing in cages with great energy and animation. On their first arrival in Pennsylvania, in February, and until early in April, they associate in flocks, frequently assembling in great numbers on the same tree to bask and dress themselves in the morning sun, singing in concert for half an hour together; the confused

mingling of their notes forming a kind of harmony not at all unpleasant. About the last of November, and sometimes sooner, they *generally* leave Pennsylvania, and proceed to the south; some, however, are seen even in the midst of the severest winters. Their flight is not direct, but in alternate risings and sinkings, twittering as they fly, at each successive impulse of the wings. During the latter part of summer they are almost constant visitors in our gardens, in search of seeds, which they dislodge from the husk with great address, while hanging, frequently head downwards, in the manner of the Titmouse. From these circumstances, as well as from their color, they are very generally known, and pass by various names expressive of their food, color, &c., such as Thistle-bird, Lettuce-bird, Salad-bird, Yellow-bird, &c., &c. The gardeners who supply the city of Philadelphia with vegetables often take them in trap-cages, and expose them for sale in the market. They are easily familiarized to confinement, and feed with seeming indifference a few hours after being taken.

The great resemblance which the Yellow-bird bears to the Canary, has made many persons attempt to pair individuals of the two species together. An ingenious French gentleman who resides in Pottsgrove, Pennsylvania, assured me that he had tried the male Yellow-bird with the female Canary, and the female Yellow-bird with the male Canary, but without effect, though he kept them for several years together, and supplied them with proper materials for building. Mr. Hassey, of New York, however, who keeps a great number of native as well as foreign birds, informed me, that a Yellow-bird paired with a Canary in his possession, and laid eggs, but did not hatch, which he attributed to the lateness of the season.

These birds, as has been before observed, were seen by Mr. McKenzie, in his route across the continent of North America, as far north as lat. 54°; they are numerous in all the Atlantic states north of the Carolinas; abound in Mexico, and are also found in great numbers in the savannahs of Guiana.

The seeds of the lettuce, thistle, hemp, &c., are their favorite food, and it is pleasant to observe a few of them at work on a calm day, detaching the thistle-down in search of the seeds, making it fly in clouds around them. The figure on the plate represents this bird of its natural size.

The American Goldfinch has been figured and described by Catesby,* who says that the back part of the head is a dirty green, &c. This description must have been taken while the bird was changing its plumage. At the approach of fall, not only the rich yellow fades into a brown olive: but the spot of black on the crown and forehead, becomes

* Nat. Hist. Car. vol. i., p. 43.

also of the same olive tint. Mr. Edwards has also erred in saying that the young male bird has the spot of black on the forehead; this it does not receive until the succeeding spring. The figure in Edwards is considerably too large; and that by Catesby has the wings and tail much longer than in nature, and the body too slender; very different from the true form of the living bird. Mr. Pennant also tells us, that the legs of this species are *black*; they are, however, of a bright cinnamon color; but the worthy naturalist, no doubt, described them as he found them in the dried and stuffed skin, shrivelled up and blackened with decay; and thus too much of our natural history has been delineated.

SPECIES II. *FRINGILLA PURPUREA*.

PURPLE FINCH.

[Plate VII. Fig. 4, adult male.]

Fringilla purpurea, Gmel. *Syst.* I, 923.—*Bouvreuil violet de la Caroline*, BUFF. IV. 395.—*Purple Finch*, Arct. Zool. II., No. 258.—CATESB. I., 41.—LATH. *Syn.* III., 299, 39.—*Crimson-headed Finch*, Arct. Zool. II., No. 257.—LATH. *Syn.* III., 275, 39.—*Hemp-bird*, BARTRAM, 291. *Fringilla purpurea*, Id. 291.

THIS is a winter bird of passage, coming to us in large flocks from the north, in September and October, great numbers remaining with us in Pennsylvania during the whole winter, feeding on the seeds of the poplar, button-wood, juniper, cedar, and on those of many rank weeds that flourish in rich bottoms, and along the margin of creeks. When the season is very severe they proceed to the south, as far at least as Georgia, returning north early in April. They now frequent the elm trees, feeding on the slender but sweet covering of the flowers; and as soon as the cherries put out their blossoms, feed almost exclusively on the stamina of the flowers; afterwards the apple blossoms are attacked in the same manner; and their depredations on these continue till they disappear, which is usually about the tenth or middle of May. I have been told that they sometimes breed in the northern parts of New York, but have never met with their nests. About the middle of September I found these birds numerous on Long Island, and round Newark, in New Jersey. They fly at a considerable height in the air, and their note is a single *chink* like that of the Rice-bird. They possess great boldness and spirit, and when caught bite violently, and hang by the bill from your hand, striking with great fury; but they are soon reconciled to confinement, and in a day or two are quite at home. I have kept a pair of these birds upwards of nine months, to observe their manners. One was caught in a trap, the other was winged with the

gun; both are now as familiar as if brought up from the nest by the hand, and seem to prefer hempseed and cherry blossoms to all other kinds of food. Both male and female, though not crested, are almost constantly in the habit of erecting the feathers of the crown; they appear to be of a tyrannical and domineering disposition, for they nearly killed an Indigo-bird, and two or three others that were occasionally placed with them, driving them into a corner of the cage, standing on them and tearing out their feathers, striking them on the head, munching their wings, &c., &c., till I was obliged to interfere; and even if called to, the aggressor would only turn up a malicious eye to me for a moment, and renew his outrage as before. They are a hardy, vigorous bird. In the month of October, about the time of their first arrival, I shot a male, rich in plumage, and plump in flesh, but which wanted one leg, that had been taken off a little above the knee; the wound had healed so completely, and was covered with so thick a skin, that it seemed as though it had been so for years. Whether this mutilation was occasioned by a shot, or in party quarrels of its own, I could not determine; but our invalid seemed to have used his stump either in hopping or resting, for it had all the appearance of having been brought in frequent contact with other bodies harder than itself.

This bird is a striking example of the truth of what I have frequently repeated in this work, that in many instances the same bird has been more than once described by the same person as a different species; for it is a fact which time will establish, that the Crimson-headed Finch of Pennant and Latham, the Purple Finch of the same and other naturalists, the Hemp-bird of Bartram, and the *Fringilla rosea* of Pallas, are one and the same, viz., the Purple Finch, the subject of the present article.

The Purple Finch is six inches in length and nine in extent; head, neck, back, breast, rump, and tail coverts, dark crimson, deepest on the head and chin, and lightest on the lower part of the breast; the back is streaked with dusky; the wings and tail are also dusky black, edged with reddish; the latter a good deal forked; round the base of the bill the recumbent feathers are of a light clay or cream color; belly and vent white; sides under the wings streaked with dull reddish; legs a dirty purplish flesh color; bill short, strong, conical, and of a dusky horn color; iris dark hazel; the feathers covering the ears are more dusky red than the other parts of the head. This is the male, when arrived at its full colors. The female is nearly of the same size, of a brown olive or flaxen color, streaked with dusky black; the head seamed with lateral lines of whitish; above and below the hind part of the ear feathers, are two streaks of white; the breast is whitish, streaked with a light flax color; tail and wings as in the male, only both edged with dull brown instead of red; belly and vent white. This is also the

color of the young during the first, and to at least the end of the second, season, when the males begin to become lighter yellowish, which gradually brightens to crimson; the female always retains nearly the same appearance. The young male bird of the first year may be distinguished from the female by the tail of the former being edged with olive green, that of the latter with brown. A male of one of these birds which I kept for some time, changed in the month of October, from red to greenish yellow, but died before it recovered its former color.

FRINGILLA PURPUREA.

PURPLE FINCH.

[Plate XLII. Fig. 3, Male in winter plumage.]

THIS bird is represented as he appears previous to receiving his crimson plumage, and also when moulting. By recurring to Pl. VII., fig. 4, which exhibits him in his full dress, the great difference of color will be observed to which this species is annually subject.

It is matter of doubt with me whether this species ought not to be classed with *Loxia*; the great thickness of the bill, and similarity that prevails between this and the Pine Grosbeak, almost induced me to adopt it into that class. But respect for other authorities has prevented me from making this alteration.

When these birds are taken in their crimson dress, and kept in a cage till they moult their feathers, they uniformly change to their present appearance, and sometimes never after receive their red color. They are also subject, if well fed, to become so fat as literally to die of corpulency, of which I have seen several instances; being at these times subject to something resembling apoplexy, from which they sometimes recover in a few minutes, but oftener expire in the same space of time.

The female is entirely without the red, and differs from the present only in having less yellow about her.

These birds regularly arrive from the north, where they breed, in September; and visit us from the south again early in April, feeding on the cherry blossoms as soon as they appear.

The individual figured in the plate measured six inches and a quarter in length, and ten inches in extent; the bill was horn colored; upper parts of the plumage brown olive strongly tinged with yellow, particularly on the rump, where it was brownish yellow; from above the eye, backwards, passed a streak of white, and another more irregular one

from the lower mandible; feathers of the crown narrow, rather long, and generally erected, but not so as to form a crest; nostrils and base of the bill covered with reflected brownish hairs; eye dark hazel; wings and tail dark blackish brown, edged with olive; first and second row of coverts tipped with pale yellow; chin white; breast pale cream, marked with pointed spots of deep olive brown; belly and vent white; legs brown. This bird, with several others marked nearly in the same manner, was shot, April twenty-fifth, while engaged in eating the buds from the beech tree.

SPECIES III. *FRINGILLA PUSILLA*.

FIELD SPARROW.

[Plate XVI. Fig. 2.]

Passer agrestis, BARTRAM, p. 291.

THIS is the smallest of all our Sparrows, and in Pennsylvania is generally migratory. It arrives early in April, frequents dry fields covered with long grass, builds a small nest on the ground, generally at the foot of a briar, lines it with horse-hair; lays six eggs so thickly sprinkled with ferruginous as to appear altogether of that tint; and raises two, and often three, broods in a season. It is more frequently found in the middle of fields and orchards than any of the other species, which usually lurk along hedge rows. It has no song; but a kind of chirruping not much different from the chirpings of a cricket. Towards fall they assemble in loose flocks in orchards and corn fields, in search of the seeds of various rank weeds; and are then very numerous. As the weather becomes severe, with deep snow, they disappear. In the lower parts of North and South Carolina I found this species in multitudes in the months of January and February. When disturbed they take to the bushes, clustering so close together that a dozen may easily be shot at a time. I continued to see them equally numerous through the whole lower parts of Georgia; from whence, according to Mr. Abbot, they all disappear early in the spring.

None of our birds have been more imperfectly described than that family of the Finch tribe usually called Sparrows. They have been considered as too insignificant for particular notice, yet they possess distinct characters, and some of them peculiarities, well worthy of notice. They are innocent in their habits, subsisting chiefly on the small seeds of wild plants, and seldom injuring the property of the farmer. In the dreary season of winter some of them enliven the prospect by hopping

familiarly about our doors, humble pensioners on the sweepings of the threshold.

The present species has never before, to my knowledge, been figured. It is five inches and a quarter long, and eight inches broad; bill and legs a reddish cinnamon color; upper part of the head deep chestnut, divided by a slight streak of drab widening as it goes back; cheeks, line over the eye, breast and sides under the wings a brownish clay color, lightest on the chin, and darkest on the ear feathers; a small streak of brown at the lower angle of the bill; back streaked with black, drab, and bright bay, the latter being generally centered with the former; rump dark drab, or cinereous; wings dusky black, the primaries edged with whitish, the secondaries bordered with bright bay; greater wing-coverts black, edged and broadly tipped with brownish white; tail dusky black, edged with clay color: male and female nearly alike in plumage; the chestnut on the crown of the male rather brighter.

SPECIES IV. *FRINGILLA ARBOREA*.*

TREE SPARROW.

[Plate XVI. Fig. 3.]

Le Soulciet, BUFF. III., 500.—*Moineau de Canada*, BRISS. III., 101.—*Pl. Enl.* 223.
—LATH. II., 252.—EDW. 269.—*Arct. Zool.* p. 373, No. 246.

THIS Sparrow is a native of the north, who takes up his winter quarters in Pennsylvania, and most of the Northern States, as well as several of the Southern ones. He arrives here about the beginning of November; and leaves us again early in April; associates in flocks with the Snow-birds, frequents sheltered hollows, thickets, and hedge-rows, near springs of water; and has a low warbling note, scarcely audible at the distance of twenty or thirty yards. If disturbed takes to trees, like the White-throated Sparrow, but contrary to the habit of most of the others, who are inclined rather to dive into thickets. Edwards erroneously represented this as the female of the Mountain Sparrow; but that judicious and excellent naturalist, Pennant, has given a more correct account of it, and informs us, that it inhabits the country bordering on Hudson's Bay during summer; comes to Severn settlement in May;

* The specific name, *Canadensis*, given by BRISSON and adopted by LATHAM, must be restored to this bird. The following synonymes may be quoted. *Fringilla monticola*, GMEL. *Syst.* I., p. 912.—*Passer Canadensis*, BRISS. III., p. 102, 15.—Id. 8vo. I., p. 335.—*Mountain Finch*, LATH. *Syn.* III., p. 265, 16. *Fringilla Canadensis*, LATH. *Ind. Orn.* I., p. 434.

advances farther north to breed; and returns in autumn on its way southward. It also visits Newfoundland.*

By some of our own naturalists this species has been confounded with the Chipping Sparrow (fig. 5), which it very much resembles; but is larger and handsomer; and is never found with us in summer. The former departs for the south about the same time that the latter arrives from the north; and from this circumstance, and their general resemblance, has arisen the mistake.

The Tree Sparrow is six inches and a half long, and nine and a half in extent; the whole upper part of the head is of a bright reddish chestnut, sometimes slightly skirted with gray; from the nostrils over the eye passes a white strip fading into pale ash as it extends back; sides of the neck, chin and breast very pale ash; the centre of the breast marked with an obscure spot of dark brown; from the lower angle of the bill proceeds a slight streak of chestnut; sides under the wings pale brown; back handsomely streaked with pale drab, bright bay and black; lower part of the back and rump brownish drab; lesser wing coverts black, edged with pale ash; wings black, broadly edged with bright bay; the first and second row of coverts tipped with pure white; tail black, forked, and exteriorly edged with dull white; belly and vent brownish white; bill black above, yellow below; legs a brownish clay color; feet black. The female is about half an inch shorter; the chestnut or bright bay on the wings, back and crown is less brilliant; and the white on the coverts narrower, and not so pure. These are all the differences I can perceive.

* *Arct. Zool.* Vol. II., p. 373.

SPECIES V. *FRINGILLA MELODIA.*

SONG SPARROW.

[Plate XVI. Fig. 4.]

Fasciated Finch? *Arct. Zool.* p. 375, No. 252.

So nearly do many species of our Sparrows approximate to each other in plumage, and so imperfectly have they been taken notice of, that it is absolutely impossible to say, with certainty, whether the present species has ever been described or not. And yet, of all our Sparrows, this is the most numerous, the most generally diffused over the United States, and by far the earliest, sweetest, and most lasting songster. It may be said to be partially migratory, many passing to the south in the month of November; and many of them still remaining with us, in low close sheltered meadows and swamps, during the whole of winter. It is the first singing bird in spring, taking precedence even of the Pewee and Blue-bird. Its song continues occasionally during the whole summer and fall; and is sometimes heard even in the depth of winter. The notes, or chant, are short but very sweet, resembling the beginning of the Canary's song, and frequently repeated, generally from the branches of a bush or small tree, where it sits chanting for an hour together. It is fond of frequenting the borders of rivers, meadows, swamps, and such like watery places; and if wounded, and unable to fly, will readily take to the water, and swim with considerable rapidity. In the great cypress swamps of the Southern States in the depth of winter, I observed multitudes of these birds mixed with several other species; for these places appear to be the grand winter rendezvous of almost all our Sparrows. I have found this bird in every district of the United States from Canada to the southern boundaries of Georgia; but Mr. Abbot informs me, that he knows of only one or two species that remain in that part of Georgia during the summer.

The Song Sparrow builds in the ground, under a tuft of grass; the nest is formed of fine dry grass, and lined with horse hair; the eggs are four or five, thickly marked with spots of reddish brown on a white, sometimes bluish white ground; if not interrupted, he raises three broods in the season. I have found his nest with young as early as the 26th of April, and as late as the 12th of August. What is singular, the same bird often fixes his nest in a cedar tree, five or six feet from

the ground. Supposing this to have been a *variety*, or different species, I have examined the bird, nest and eggs, with particular care, several times; but found no difference. I have observed the same accidental habit in the Red-winged Blackbird, which sometimes builds among the grass, as well as on alder bushes.

This species is six inches and a half long, and eight and a half in extent; upper part of the head dark chestnut, divided, laterally, by a line of pale dirty white; spot at each nostril yellow ochre; line over the eye inclining to ash; chin white; streak from the lower mandible, slit of the mouth, and posterior angle of the eye, dark chestnut; breast and sides under the wings thickly marked with long pointed spots of dark chestnut, centered with black, and running in chains; belly white; vent yellow ochre, streaked with brown; back streaked with black, bay, and pale ochre; tail brown, rounded at the end, the two middle feathers streaked down their centres with black; legs flesh colored; wing coverts black, broadly edged with bay, and tipped with yellowish white; wings dark brown. The female is scarcely distinguishable by its plumage from the male. The bill in both horn colored.

SPECIES VI. *FRINGILLA SOCIALIS*.

CHIPPING SPARROW.

[Plate XVI. Fig. 5.]

Passer domesticus, the little House Sparrow, or Chipping-bird, BARTRAM, p. 291.

THIS species, though destitute of the musical talents of the former, is perhaps more generally known, because more familiar and even domestic. He inhabits, during summer, the city, in common with man, building in the branches of the trees with which our streets and gardens are ornamented; and gleaning up crumbs from our yards, and even our doors, to feed his more advanced young with. I have known one of these birds attend regularly every day, during the whole summer, while the family were at dinner, under a piazza, fronting the garden, and pick up the crumbs that were thrown to him. This sociable habit, which continues chiefly during the summer, is a singular characteristic. Towards the end of summer he takes to the fields, and hedges, until the weather becomes severe, with snow, when he departs for the south.

The Chipping-bird builds his nest most commonly in a cedar bush, and lines it thickly with cow-hair. The female lays four or five eggs of a light blue color, with a few dots of purplish black near the great end.

This species may easily be distinguished from the four preceding ones, by his *black bill and frontlet*, and by his familiarity in summer; yet, in the month of August and September, when they moult, the black on the front and partially on the bill disappears. The young are also without the black during the first season.

The Chipping Sparrow is five inches and a quarter long, and eight inches in extent; frontlet black; chin and line over the eye whitish; crown chestnut; breast and sides of the neck pale ash; bill in winter black, in summer the lower mandible flesh colored; rump dark ash; belly and vent white; back variegated with black and bright bay; wings black, broadly edged with bright chestnut; tail dusky, forked, and slightly edged with pale ochre; legs and feet a pale flesh color. The female differs in having less black on the frontlet, and the bay duller. Both lose the black front in moulting.

SPECIES VII. *FRINGILLA HUDSONIA*.*

SNOW-BIRD.

[Plate XVI. Fig. 6.]

Fringilla Hudsonia, TURTON, *Syst.* 1., 568.—*Emberiza hyemalis*, *Id.* 531.—LATH. 1., 66.—CATESBY, 1., 36.—*Arct. Zool.* p. 359, No. 223.—*Passer nivalis*, BARTRAM, p. 291.

THIS well known species, small and insignificant as it may appear, is by far the most numerous, as well as the most extensively disseminated, of all the feathered tribes that visit us from the frozen regions of the north. Their migrations extending from the Arctic Circle, and probably beyond it, to the shores of the Gulf of Mexico, spreading over the whole breadth of the United States from the Atlantic Ocean to Louisiana; how much farther westward I am unable to say. About the twentieth of October they make their first appearance in those parts of Pennsylvania east of the Alleghany Mountains. At first they are most generally seen on the borders of woods among the falling and decayed leaves, in loose flocks of thirty or forty together, always taking to the trees when disturbed. As the weather sets in colder they approach nearer the farm-house and villages; and on the appearance of what is usually called *falling weather*, assemble in larger flocks, and seem doubly diligent in searching for food. This increased activity is generally a sure prognostic of a storm. When deep snow covers the ground

* *Fringilla hyemalis*, LINN. *Syst. Ed.* 10, 1., p. 183, 30.

they become almost half domesticated. They collect about the barn, stables, and other outhouses, spread over the yard, and even round the steps of the door; not only in the country and villages, but in the heart of our large cities; crowding around the threshold early in the morning, gleaning up the crumbs; appearing very lively and familiar. They have also recourse, at this severe season, when the face of the earth is shut up from them, to the seeds of many kinds of weeds that still rise above the snow, in corners of fields, and low sheltered situations along the borders of creeks and fences, where they associate with several species of Sparrows, particularly those represented on the same plate. They are at this time easily caught with almost any kind of traps; are generally fat, and, it is said, are excellent eating.

I cannot but consider this bird as the most numerous of its tribe of any within the United States. From the northern parts of the district of Maine, to the Ogechee river in Georgia, a distance by the circuitous route in which I travelled of more than 1800 miles, I never passed a day, and scarcely a mile, without seeing numbers of these birds, and frequently large flocks of several thousands. Other travellers, with whom I conversed, who had come from Lexington in Kentucky, through Virginia, also declared that they found these birds numerous along the whole road. It should be observed, that the road sides are their favorite haunts, where many rank weeds that grow along the fences furnish them with food, and the road with gravel. In the vicinity of places where they were most numerous, I observed the small Hawk, represented in the same plate, and several others of his tribe, watching their opportunity, or hovering cautiously around, making an occasional sweep among them, and retiring to the bare branches of an old cypress to feed on their victim. In the month of April, when the weather begins to be warm, they are observed to retreat to the woods; and to prefer the shaded sides of hills and thickets; at which time the males warble out a few very low sweet notes; and are almost perpetually pursuing and fighting with each other. About the twentieth of April they take their leave of our humble regions, and retire to the north, and to the high ranges of the Alleghany to build their nests, and rear their young. In some of those ranges, in the interior of Virginia, and northward about the waters of the west branch of the Susquehanna, they breed in great numbers. The nest is fixed in the ground or among the grass, sometimes several being within a small distance of each other. According to the observations of the gentlemen residing at Hudson's Bay factory, they arrive there about the beginning of June, stay a week or two, and proceed farther north to breed. They return to that settlement in the autumn on their way to the south.

In some parts of New England I found the opinion pretty general, that the Snow-bird in summer is transformed into the small Chipping

Sparrow, which we find so common in that season, and which is represented in the same plate. I had convinced a gentleman of New York of his mistake in this matter, by taking him to the house of a Mr. Gautier, there, who amuses himself by keeping a great number of native as well as foreign birds. This was in the month of July, and the Snow-bird appeared there in the same colored plumage he usually has. Several individuals of the Chipping Sparrow were also in the same apartment. The evidence was therefore irresistible; but as I had not the same proofs to offer to the eye in New England, I had not the same success.

There must be something in the temperature of the blood or constitution of this bird which unfits it for residing, during summer, in the lower parts of the United States; as the country here abounds with a great variety of food, of which, during its stay here, it appears to be remarkably fond. Or, perhaps, its habit of associating in such numbers to breed, and building its nest with so little precaution, may, to insure its safety, require a solitary region, far from the intruding footsteps of man.

The Snow-bird is six inches long, and nine in extent, the head, neck, and upper parts of the breast, body and wings, are of a deep slate color; the plumage sometimes skirted with brown, which is the color of the young birds; the lower parts of the breast, the whole belly and vent, are pure white; the three secondary quill feathers next the body are edged with brown, the primaries with white; the tail is dusky slate, a little forked, the two exterior feathers wholly white, which are flitted out as it flies, and appear then very prominent; the bill and legs are of a reddish flesh color; the eye bluish black. The female differs from the male in being considerably more brown. In the depth of winter the slate color of the male becomes more deep and much purer, the brown disappearing nearly altogether.

SPECIES VIII. *FRINGILLA PINUS*.

PINE FINCH.

[Plate XVII. Fig. 1.]

THIS little northern stranger visits us in the month of November, and seeks the seeds of the black alder, on the borders of swamps, creeks and rivulets. As the weather becomes more severe, and the seeds of the *Pinus canadensis* are fully ripe, these birds collect in larger flocks and take up their residence, almost exclusively, among these trees. In the gardens of Bush-hill, in the neighborhood of Philadelphia, a flock of two or three hundred of these birds have regularly wintered many years; where a noble avenue of pine trees, and walks covered with fine white gravel, furnish them with abundance through the winter. Early in March they disappear, either to the north, or to the pine woods that cover many lesser ranges of the Alleghany. While here they are often so tame as to allow you to walk within a few yards of the spot where a whole flock of them are sitting. They flutter among the branches, frequently hanging by the cones, and uttering a note almost exactly like that of the Goldfinch (*F. tristis*). I have not a doubt but this bird appears in a richer dress in summer in those places where he breeds, as he has so very great a resemblance to the bird above mentioned, with whose changes we are well acquainted.

The length of this species is four inches, breadth eight inches; upper part of the head, the neck and back, a dark flaxen color, streaked with black; wings black, marked with two rows of dull white or cream color; whole wing quills, under the coverts, rich yellow, appearing even when the wings are shut; rump and tail coverts yellowish, streaked with dark brown; tail feathers rich yellow from the roots half way to the tips, except the two middle ones, which are blackish brown, slightly edged with yellow; sides under the wings of a cream color, with long streaks of black; breast a light flaxen color, with small streaks or pointed spots of black; legs purplish brown; bill a dull horn color; eyes hazel. The female was scarcely distinguishable by its plumage from the male. The New York Siskin of Pennant* appears to be only the Yellow-bird (*Fringilla tristis*) in his winter dress.

* Aret. Zool. p. 372. No. 243.

This bird has a still greater resemblance to the Siskin of Europe (*F. spinus*), and may perhaps be the species described by Turton,* as the Black Mexican Siskin, which he says is varied above with black and yellowish, and is white beneath, and which is also said to sing finely. This change from flaxen to yellow is observable in the Goldfinch; and no other two birds of our country resemble each other more than these do in their winter dresses. Should these surmises be found correct, a figure of this bird in his summer dress shall appear in some future part of our work.

SPECIES IX. *FRINGILLA ALBICOLLIS*.†

WHITE-THROATED SPARROW

[Plate XXII. Fig. 2.]

Fringilla fusca, BARTRAM, p. 291.—LATH. II., 272.—EDWARDS, 304.—*Arct. Zool.* p. 373, No. 248.

THIS is the largest as well as handsomest of all our Sparrows. It winters with the preceding species and several others in most of the states south of New England. From Connecticut to Savannah I found these birds numerous, particularly in the neighborhood of the Roanoke river, and among the rice plantations. In summer they retire to the higher inland parts of the country, and also farther north to breed. According to Pennant they are also found at that season in Newfoundland. During their residence here in winter, they collect together in flocks, always preferring the borders of swampy thickets, creeks, and mill-ponds, skirted with alder bushes and long rank weeds, the seeds of which form their principal food. Early in spring, a little before they leave us, they have a few remarkably sweet and clear notes, generally in the morning a little after sunrise. About the twentieth of April they disappear, and we see no more of them till the beginning or second week of October, when they again return; part to pass the winter with us; and part on their route farther south.

The length of the White-throated Sparrow is six inches and a half, breadth nine inches; the upper part of the back and the lesser wing coverts are beautifully variegated with black, bay, ash and light brown; a stripe of white passes from the base of the upper mandible to the hind

* Turton, vol. I., p. 550.

† *Fringilla pennsylvanica*, LATH. *Ind. Orn.* I., 445.—*Passer pennsylvanicus*. BRISS. app. p. 77.—Id. 8vo. I., p. 367.

head; this is bordered on each side with a stripe of black; below this again is another of white passing over each eye, and deepening into orange yellow between that and the nostril; this is again bordered by a stripe of black proceeding from the hind part of the eye; breast ash; chin, belly, and vent white; tail somewhat wedged; legs flesh colored; bill a bluish horn color; eye hazel. In the female the white stripe on the crown is a light drab; the breast not so dark; the chin less pure; and the line of yellow before the eye scarce half as long as in the male. All the parts that are white in the male are in the female of a light drab color.

SPECIES X. *FRINGILLA PALUSTRIS*.

SWAMP SPARROW.

[Plate XXII. Fig. 1.]

Passer palustris, BARTRAM, p. 291.

THE history of this obscure and humble species is short and uninteresting. Unknown or overlooked by the naturalists of Europe, it is now for the first time introduced to the notice of the world. It is one of our summer visitants, arriving in Pennsylvania early in April, frequenting low grounds, and river courses; rearing two, and sometimes three broods in a season; and returning to the south as the cold weather commences. The immense cypress swamps and extensive grassy flats of the Southern States, that border their numerous rivers, and the rich rice plantations abounding with their favorite seeds and sustenance, appear to be the general winter resort, and grand annual rendezvous, of this and all other species of Sparrow that remain with us during summer. From the river Trent, in North Carolina, to that of Savannah, and still farther south, I found this species very numerous; not flying in flocks, but skulking among the canes, reeds, and grass, seeming shy and timorous, and more attached to the water than any other of their tribe. In the month of April numbers pass through Pennsylvania to the northward, which I conjecture from the circumstance of finding them at that season in particular parts of the woods, where during the rest of the year they are not to be seen. The few that remain frequent the swamps, and reedy borders of our creeks and rivers. They form their nest in the ground, sometimes in a tussock of rank grass, surrounded by water, and lay four eggs of a dirty white, spotted with rufous. So late as the fifteenth of August, I have seen them feeding their young that were scarcely able to fly. Their prin-

cial food is grass seeds, wild oats, and insects. They have no song; are distinguished by a single chip or *cheep*, uttered in a rather hoarser tone than that of the Song Sparrow; flirt the tail as they fly; seldom or never take to the trees, but skulk from one low bush or swampy thicket to another.

The Swamp Sparrow is five inches and a half long, and seven inches and a half in extent; the back of the neck and front are black; crown bright bay, bordered with black; a spot of yellowish white between the eye and nostril; sides of the neck and whole breast dark ash; chin white; a streak of black proceeds from the lower mandible, and another from the posterior angle of the eye; back black, slightly skirted with bay; greater coverts also black, edged with bay; wings and tail plain brown; belly and vent brownish white; bill dusky above, bluish below; eyes hazel; legs brown; claws strong and sharp for climbing the reeds. The female wants the bay on the crown, or has it indistinctly; over the eye is a line of dull white.

SPECIES XI. *FRINGILLA MARITIMA*.

SEA-SIDE FINCH.

[Plate XXXIV. Fig. 2.]

OF this bird I can find no description. It inhabits the low, rush-covered sea islands along our Atlantic coast, where I first found it; keeping almost continually within the boundaries of tide water, except when long and violent east or north-easterly storms, with high tides, compel it to seek the shore. On these occasions it courses along the margin, and among the holes and interstices of the weeds and seawrack, with a rapidity equalled only by the nimblest of our Sandpipers, and very much in their manner. At these times also it roosts on the ground, and runs about after dusk.

This species derives its whole subsistence from the sea. I examined a great number of individuals by dissection, and found their stomachs universally filled with fragments of shrimps, minute shell fish, and broken limbs of small sea crabs. Its flesh, also, as was to be expected, tasted of fish, or was what was usually termed *sedgy*. Amidst the recesses of these wet sea marshes it seeks the rankest growth of grass, and sea weed, and climbs along the stalks of the rushes with as much dexterity as it runs along the ground, which is rather a singular circumstance, most of our climbers being rather awkward at running.

The Sea-side Finch is six inches and a quarter long, and eight and a

quarter in extent; chin pure white, bordered on each side by a stripe of dark ash, proceeding from each base of the lower mandible, above that is another slight streak of white; from the nostril over the eye extends another streak which immediately over the lores is rich yellow, bordered above with white, and ending in yellow olive; crown brownish olive, divided laterally by a stripe of slate blue, or fine light ash; breast ash, streaked with buff; belly white; vent buff-colored, and streaked with black; upper parts of the back, wings and tail a yellowish brown olive, intermixed with very pale blue; greater and lesser coverts tipped with dull white; edge of the bend of the wing rich yellow; primaries edged with the same immediately below their coverts; tail cuneiform, olive brown, centered with black; bill dusky above, pale blue below, longer than is usual with Finches; legs and feet a pale bluish white; irides hazel. Male and female nearly alike in color.

SPECIES XII. - *FRINGILLA CAUDACUTA*.

SHARP-TAILED FINCH.

[Plate XXXIV. Fig. 3.]

Sharp-tailed Oriole, LATH. *Gen. Syn.* II., p. 448, pl. XVII.

A BIRD of this denomination is described by Turton, *Syst.* p. 562, but which by no means agrees with the present. This, however, may be the fault of the describer, as it is said to be a bird of Georgia; unwilling, therefore, to multiply names unnecessarily, I have adopted his appellation. In some future part of the work I shall settle this matter with more precision.

This new (as I apprehend it) and beautiful species as an associate of the former, inhabits the same places, lives on the same food; and resembles it so much in manners, that but for their dissimilarity in some essential particulars, I would be disposed to consider them as the same in a different state of plumage. They are much less numerous than the preceding, and do not run with equal celerity.

The Sharp-tailed Finch is five inches and a quarter long, and seven inches and a quarter in extent; bill dusky; auriculars ash; from the bill over the eye, and also below it, run two broad stripes of brownish orange; chin whitish; breast pale buff, marked with small pointed spots of black; belly white; vent reddish buff; from the base of the upper mandible a broad stripe of pale ash runs along the crown and hind head, bordered on each side by one of blackish brown; back a yellowish brown

olive, some of the feathers curiously edged with semicircles of white; sides under the wings buff, spotted with black; wing coverts and tertials black, broadly edged with light reddish buff; tail cuneiform, short; all the feathers sharp pointed; legs a yellow clay color; irides hazel.

I examined many of these birds, and found but little difference in the color and markings of their plumage.

Since writing the above, I have become convinced that the bird described by Mr. Latham, under the name of Sharp-tailed Oriole (*Oriolus caudacutus*), is the present species. Latham states, that his description and figure were taken from a specimen deposited in Mrs. Blackburn's collection, and that it came from New York.

SPECIES XIII. *FRINGILLA SAVANNA*.

SAVANNAH FINCH.

[Plate XXXIV. Fig. 4, Male.]

THE figure of this delicately marked Sparrow was drawn from a very beautiful male, and is a faithful representation of the original.

The length is five and a half inches, extent eight and a half; bill pale brown; eyebrows Naples yellow; breast and whole lower parts pure white, the former marked with small pointed spots of brown; upper parts a pale whitish drab, mottled with reddish brown; wing-coverts edged and tipped with white; tertials black, edged with white and bay; legs pale clay; ear feathers tinged with Naples yellow. The female and young males are less and much darker.

This is probably the most timid of all our Sparrows. In winter it frequents the sea shores; but as spring approaches migrates to the interior, as I have lately discovered, building its nest in the grass nearly in the same form, though with fewer materials, as that of the Bay-winged Bunting. On the twenty-third of May I found one of these at the root of a clump of rushes in a grass field, with three young, nearly ready to fly. The female counterfeited lameness, spreading her wings and tail, and using many affectionate stratagems to allure me from the place. The eggs I have never seen.

FRINGILLA SAVANNA.

SAVANNAH SPARROW.

[Plate XXII. Fig. 3, Female.]

THIS new species is an inhabitant of the low countries on the Atlantic coast, from Savannah, where I first discovered it, to the state of New York: and is generally resident in these places, though rarely found inland, or far from the sea shore. The drawing of this bird was in the hands of the engraver before I was aware that the male was so much its superior in beauty of markings and in general colors. With the representation of the male are given particulars of their nest, eggs, and manners. I have found these birds numerous on the sea shore, in the state of New Jersey, particularly near Great Egg Harbor. A pair of these I presented to Mr. Peale of this city, in whose noble collection they now occupy a place.

The female of the Savannah Sparrow is five inches and a half long, and eight and a half in extent; the plumage of the back is mottled with black, bright bay and whitish; chin white; breast marked with pointed spots of black, edged with bay, running in chains from each base of the lower mandible; sides touched with long streaks of the same; temples marked with a spot of delicate yellow; ear feathers slightly tinged with the same; belly white, and a little streaked; inside of the shoulders and lining of the wing pale yellowish; first and second rows of wing coverts tipped with whitish; secondaries next the body pointed and very black, edged also with bay; tail slightly forked, and without any white feathers; legs pale flesh color; hind claw pretty long.

The very slight distinctions of color which nature has drawn between many distinct species of this family of Finches, render these minute and tedious descriptions absolutely necessary, that the particular species may be precisely discriminated.

SPECIES XIV. *FRINGILLA FERRUGINEA*.*

FOX-COLORED SPARROW.

[Plate XXII. Fig. 4.]

Rusty Bunting, *Arct. Zool.* p. 364, No. 231. Ib. 233.—*Ferruginous Finch*, Ib. 375, No. 251.—*Fringilla rufa*, BARTRAM, p. 291.

THIS plump and pretty species arrives in Pennsylvania from the north about the twentieth of October; frequents low sheltered thickets; associates in little flocks of ten or twelve, and is almost continually scraping the ground, and rustling among the fallen leaves. I found this bird numerous in November among the rich cultivated flats that border the river Connecticut; and was informed that it leaves those places in spring. I also found it in the northern parts of the state of Vermont. Along the borders of the great reed and cypress swamps of Virginia, and North and South Carolina, as well as around the rice plantations, I observed this bird very frequently. They also inhabit Newfoundland.† They are rather of a solitary nature, seldom feeding in the open fields; but generally under thickets, or among tall rank weeds on the edges of fields. They sometimes associate with the Snow-bird, but more generally keep by themselves. Their manners very much resemble those of the Red-eyed Bunting (Plate X., fig. 4); they are silent, tame, and unsuspicious. They have generally no other note while here than a *shep, shep*; yet I suspect they have some song in the places where they breed; for I once heard a single one, a little before the time they leave us, warble out a few very sweet low notes.

The Fox-colored Sparrow is six inches long, and nine and a quarter broad; the upper part of the head and neck is cinereous, edged with rust color; back handsomely mottled with reddish brown and cinereous; wings and tail bright ferruginous; the primaries dusky within and at the tips, the first and second rows of coverts, tipped with white; breast and belly white; the former, as well as the ear feathers, marked with large blotches of bright bay, or reddish brown, and the beginning of the belly with little arrow-shaped spots of black; the tail coverts and tail

* *Fringilla iliaca*, MERREM, *Beytr.* II., p. 40, t. 10.—GMEL. I., p. 923.—LATH. *Ind. Orn.* I., p. 438.—*Fringilla ferruginea*, GMEL. *Syst.* I., p. 921.—LATH. *Syn.* III., p. 272, 31.—*Ibid. Ind. Orn.* I., p. 445.

† PENNANT.

are a bright fox color; the legs and feet a dirty brownish white, or clay color, and very strong; the bill is strong, dusky above and yellow below; iris of the eye hazel. The chief difference in the female is that the wings are not of so bright a bay, inclining more to a drab; yet this is scarcely observable, unless by a comparison of the two together. They are generally very fat, live on grass seeds, eggs of insects, and gravel.

SPECIES XV. *FRINGILLA LINARIA*.

LESSER RED-POLL.

[Plate XXX. Fig. 4.]

LATH. II., 305.—*Arct. Zool.* 379.—*Le Sizeren*, BUFF. IV., 216.

THIS bird corresponds so exactly in size, figure and color of plumage with that of Europe, of the same name, as to place their identity beyond a doubt. They inhabit during summer the most northern parts of Canada and still more remote northern countries, from whence they migrate at the commencement of winter. They appear in the Genesee country with the first deep snow, and on that account are usually called by the title of Snow-birds. As the female is destitute of the crimson on the breast and forehead, and the young birds do not receive that ornament till the succeeding spring, such a small proportion of the individuals that form these flocks are marked with red, as to induce a general belief among the inhabitants of those parts that they are two different kinds associated together. Flocks of these birds have been occasionally seen in severe winters in the neighborhood of Philadelphia. They seem particularly fond of the seeds of the common alder, and hang head downwards while feeding, in the manner of the Yellow-bird. They seem extremely unsuspicious at such times, and will allow a very near approach without betraying any symptoms of alarm.

The specimen represented in the plate was shot, with several others of both sexes, in Seneca county, between the Seneca and Cayuga lakes. Some individuals were occasionally heard to chant a few interrupted notes, but no satisfactory account can be given of their powers of song.

This species extends throughout the whole northern parts of Europe. It is likewise found in the remote wilds of Russia; was seen by Steller in Kamtschatka; and probably inhabits corresponding climates round the whole habitable parts of the northern hemisphere. In the highlands of Scotland they are common, building often on the tops of the heath, sometimes in a low furze bush, like the common Linnet; and sometimes on the ground. The nest is formed of light stalks of dried grass, inter-

mixed with tufts of wool, and warmly lined with feathers. The eggs are usually four, white, sprinkled with specks of reddish.

NOTE.

Fringilla Linaria, GMEL. *Syst.* I., p. 917, 29. *F. flavirostris*, Id. p. 915, 27.—LATH. *Ind. Orn.* p. 438. No. 16, p. 458, No. 83.—*Le Cabaret*, BUFF. *Ois.* IV., p. 76. *Pl. Enl.* 485.—BEWICK, I., p. 191.—*Fauna Orcadensis*, p. 64, 3.—*Gros-bec Sizerin*, TEMM. *Man. d' Orn.*, p. 383.

CONTRARY to the usual practice of Wilson, he omitted to furnish a *particular* description of this species, accompanying its figure. But this supplementary notice would not have been considered necessary, if our author had not fallen into a mistake respecting the markings of the female, and the young male; the former of which he describes as *destitute of the crimson on the forehead*; and the latter *not receiving that ornament till the succeeding spring*. When Wilson procured his specimens, it was in the autumn, previously to their receiving their perfect winter dress; and he was never afterwards aware of his error, owing to the circumstance of these birds seldom appearing in the neighborhood of Philadelphia. Considerable flocks of them, however, having visited us in the winter of 1813-14, we were enabled to procure several fine specimens of both sexes, from the most perfect of which we took the following description. We will add, that having had the good fortune to observe a flock, consisting of nearly a hundred, within a few feet of them, as they were busily engaged in picking the seeds of some garden plants, we can with confidence assert that they *all* had the red patch on the crown; but there were very few which had the red rump and breast; the young males, it is probable, are not thus marked until the spring; and the females are destitute of that ornament altogether.

The Lesser Red-poll is five inches and a quarter in length, and eight inches and a half in breadth; the bill is pale yellow, ridged above and below with dark horn color, the upper mandible projecting somewhat over the lower at the tip; irides dark hazel; the nostrils are covered with recumbent, hair-like feathers of drab color; a line of brown extends from the eyes, and encircles the base of the bill, forming in some specimens a patch below the chin; the crown is ornamented with a pretty large spot of deep shining crimson; the throat, breast and rump, stained with the same, but of a more delicate red; the belly is of a very pale ash, or dull white; the sides are streaked with dusky; the whole upper parts are brown or dusky, the plumage edged with yellowish white and pale ash, the latter most predominant near the rump; wings and tail dusky, the latter is forked, and consists of twelve feathers edged with white; the primaries are very slightly tipped and edged with white; the secondaries more so; the greater and lesser coverts are also tipped with

white, forming the bars across the wings; thighs cinereous, legs and feet black; hind claw considerably hooked, and longer than the rest.

The female is less bright in her plumage above; and her under parts incline more to an ash color; the spot on her crown is of a golden crimson, or reddish saffron.

One male specimen was considerably larger than the rest; it measured five inches and three quarters in length, and nine inches and a quarter in breadth; the breast and rump were tawny; its claws were uncommonly long, the hind one measured nearly three-eighths of an inch; and the spot on the crown was of a darker hue than that of the rest.

The call of this bird exactly resembles that of the *Fringilla tristis*, or common Yellow-bird of Pennsylvania.

The Red-polls linger in the neighborhood of Philadelphia until about the middle of April; but whither they retire for the business of incubation, we cannot determine.

In common with almost all our Finches, the Red-polls become very fat, and are then accounted delicious eating. During the winter above mentioned, many thousands of them were exposed to sale in the Philadelphia market, and were readily purchased by those epicures, whose love of variety permits no delicacy to escape them.

In America this species must breed far to the north, perhaps beyond the residence of man, as they are so tame and unsuspicious that one can openly approach to within five or six feet of them, while they are occupied in feeding. As a proof their rarity in Pennsylvania, I have not observed them since the early of the year 1814; they were then so common that they swarmed in the gardens of Philadelphia.—*G. Ord.*

SPECIES XVI. *FRINGILLA PASSERINA*.

YELLOW-WINGED SPARROW.

[Plate XXIV. Fig. 5.]

THIS small species is now for the first time introduced to the notice of the public. I can, however, say little towards illustrating its history, which, like that of many individuals of the human race, would be but a dull detail of humble obscurity. It inhabits the lower parts of New York and Pennsylvania; is very numerous on Staten Island, where I first observed it; and occurs also along the sea coast of New Jersey. But though it breeds in each of these places, it does not remain in any of them during the winter. It has a short, weak, interrupted chirrup, which it occasionally utters from the fences and tops of low bushes. Its nest is fixed on the ground, among the grass; is formed of loose dry grass, and lined with hair and fibrous roots of plants. The eggs are five, of a grayish white sprinkled with brown. On the first of August I found the female sitting.

I cannot say what extent of range this species has, having never met with it in the Southern States; though I have no doubt that it winters there with many others of its tribe. It is the scarcest of all our summer Sparrows. Its food consists principally of grass seeds, and the larvæ of insects, which it is almost continually in search of among the loose soil and on the surface, consequently it is more useful to the farmer than otherwise.

The length of this species is five inches, extent eight inches; upper part of the head blackish, divided by a slight line of white; hind head and neck above marked with short lateral touches of black and white; a line of yellow extends from above the eye to the nostril; cheeks plain brownish white; back streaked with black, brown, and pale ash; shoulders of the wings above and below, and lesser coverts olive yellow; greater wing coverts black, edged with pale ash; primaries light drab; tail the same, the feathers rather pointed at the ends, the outer ones white; breast plain yellowish white, or pale ochre, which distinguishes it from the Savannah Sparrow (Plate XXII., fig. 3); belly and vent white; three or four slight touches of dusky at the sides of the breast; legs flesh color; bill dusky above, pale bluish white below. The male and female are nearly alike in color.

SPECIES XVII. *FRINGILLA CYANEA*.

INDIGO-BIRD.

[Plate VI. Fig. 5.]

Tanagra cyanea, LINN. *Syst.* I., 315.—*Le Ministre*, BUFFON, IV., 96.—*Indigo Bunting*, ARCT. Zool. II., No. 235.—LATH. *Syn.* III., 205, 63.—*Blue Linnet*, EDW. 273.—*Linaria cyanea*, BARTRAM, p. 290.

THIS is another of those rich-plumaged tribes, that visit us in spring from the regions of the south. It arrives in Pennsylvania on the second week in May; and disappears about the middle of September. It is numerous in all the settled parts of the Middle and Eastern States; in the Carolinas and Georgia it is also abundant. Though Catesby says that it is only found at a great distance from the sea; yet round the city of New York, and in many places along the shores of New Jersey, I have met with them in plenty. I may also add, on the authority of Mr. William Bartram, that "they inhabit the continent and sea-coast islands, from Mexico to Nova Scotia, from the sea-coast west beyond the Apalachian and Cherokee Mountains."* They are also known in Mexico, where they probably winter. Its favorite haunts, while with us, are about gardens, fields of deep clover, the borders of woods, and road sides, where it is frequently seen perched on the fences. In its manners it is extremely active and neat; and a vigorous and pretty good songster. It mounts to the highest tops of a large tree, and chants for half an hour at a time. Its song is not one continued strain, but a repetition of short notes, commencing loud and rapid, and falling by almost imperceptible gradations for six or eight seconds, till they seem hardly articulate, as if the little minstrel were quite exhausted; and after a pause of half a minute or less, commences again as before. Some of our birds sing only in spring, and then chiefly in the morning, being comparatively mute during the heat of noon; but the Indigo-bird chants with as much animation under the meridian sun, in the month of July, as in the month of May; and continues his song, occasionally, to the middle or end of August. His usual note, when alarmed by an approach to his nest, is a sharp *chip*, like that of striking two hard pebbles smartly together.

* Travels, p. 299.

Notwithstanding the beauty of his plumage, the vivacity with which he sings, and the ease with which he can be reared and kept, the Indigo-bird is seldom seen domesticated. The few I have met with were taken in trap-cages; and such of any species rarely sing equal to those which have been reared by hand from the nest. There is one singularity which, as it cannot be well represented in the figure, may be mentioned here, viz., that in some certain lights his plumage appears of a rich sky-blue, and in others of a vivid verdigris green; so that the same bird, in passing from one place to another before your eyes, seems to undergo a total change of color. When the angle of incidence of the rays of light, reflected from his plumage, is acute, the color is green, when obtuse, blue. Such I think I have observed to be uniformly the case, without being optician enough to explain why it is so. From this, however, must be excepted the color of the head, which being of a very deep blue, is not affected by a change of position.

The nest of this bird is usually built in a low bush, among rank grass, grain or clover; suspended by two twigs, one passing up each side; and is composed outwardly of flax, and lined with fine dry grass. I have also known it to build in the hollow of an apple tree. The eggs, generally five, are blue, with a blotch of purple at the great end.

The Indigo-bird is five inches long, and seven inches in extent; the whole body is of a rich sky-blue, deepening on the head to an ultramarine, with a tinge of purple; the blue on the body, tail, and wings, varies in particular lights to a light green, or verdigris color, similar to that on the breast of a peacock; wings black, edged with light blue, and becoming brownish towards the tips; lesser coverts light blue; greater black, broadly skirted with the same blue; tail black, exteriorly edged with blue; bill black above, whitish below, somewhat larger in proportion than Finches of the same size usually are, but less than those of the genus *Emberiza*, with which Pennant has classed it, though I think improperly, as the bird has much more of the form and manners of the genus *Fringilla*, where I must be permitted to place it; legs and feet blackish brown. The female is of a light flaxen color, with the wings dusky black, and the cheeks, breast, and whole lower parts a clay color, with streaks of a darker color under the wings, and tinged in several places with bluish. Towards fall the male while moulting becomes nearly of the color of the female, and in one which I kept through the winter, the rich plumage did not return for more than two months; though I doubt not had the bird enjoyed his liberty and natural food under a warm sun this brownness would have been of shorter duration. The usual food of this species is insects and various kinds of seeds.

GENUS XL. MUSCICAPA. FLYCATCHER.

SPECIES I. *M. TYRANNUS*.

TYRANT FLYCATCHER, OR KING-BIRD.

[Plate XIII. Fig. 1.]

Lanius Tyrannus, LINN. *Syst.* 136.—LATH. *Syn.* I., 186.—CATESB. I., 55.—*Le Tyran de la Caroline*, BUFF. IV., 577. *Pl. Enl.* 676.—*Arct. Zool.* p. 384, No. 263.

THIS is the *Field Martin* of Maryland and some of the Southern States, and the *King-bird* of Pennsylvania and several of the northern districts. The epithet *Tyrant*, which is generally applied to him by naturalists, I am not altogether so well satisfied with; some, however, may think the two terms pretty nearly synonymous.

The trivial name *King* as well as *Tyrant* has been bestowed on this bird for its extraordinary behavior, and the authority it assumes over all others, during the time of breeding. At that season his extreme affection for his mate, and for his nest and young, makes him suspicious of every bird that happens to pass near his residence, so that he attacks without discrimination, every intruder. In the months of May, June, and part of July, his life is one continued scene of broils and battles, in which, however, he generally comes off conqueror. Hawks and Crows, the Bald Eagle, and the Great Black Eagle, all equally dread a rencontre with this dauntless little champion, who, as soon as he perceives one of these last approaching, launches into the air to meet him, mounts to a considerable height above him, and darts down on his back, sometimes fixing there to the great annoyance of his sovereign, who, if no convenient retreat or resting place be near, endeavors by various evolutions to rid himself of his merciless adversary. But the *King-bird* is not so easily dismounted. He teases the Eagle incessantly, sweeps upon him from right and left, remounts, that he may descend on his back with the greater violence; all the while keeping up a shrill and rapid twittering; and continuing the attack sometimes for more than a mile, till he is relieved by some other of his tribe equally eager for the contest.

There is one bird, however, which by its superior rapidity of flight, is sometimes more than a match for him; and I have several times witnessed his precipitate retreat before this active antagonist. This is the

Purple Martin, one whose food and disposition is pretty similar to his own ; but who has greatly the advantage of him on wing, in eluding all his attacks, and teasing him as he pleases. I have also seen the Red-headed Woodpecker, while clinging on a rail of the fence, amuse himself with the violence of the King-bird, and play *bo-peep* with him round the rail, while the latter, highly irritated, made every attempt as he swept from side to side to strike him, but in vain. All this turbulence, however, vanishes as soon as his young are able to shift for themselves ; and he is then as mild and peaceable as any other bird.

But he has a worse habit than all these ; one much more obnoxious to the husbandman, and often fatal to himself. He loves, not the honey, but the *bees* ; and, it must be confessed, is frequently on the look-out for these little industrious insects. He plants himself on a post of the fence, or on a small tree in the garden, not far from the hives, and thence sallies on them as they pass and repass, making great havoc among their numbers. His shrill twitter, so near to the house, gives intimation to the farmer of what is going on, and the gun soon closes his career for ever. Man arrogates to himself, in this case, the exclusive privilege of murder ; and after putting thousands of these same little insects to death, seizes on the fruits of their labor.

The King-birds arrive in Pennsylvania about the twentieth of April, sometimes in small bodies of five and six together, and are at first very silent, until they begin to pair, and build their nest. This generally takes place about the first week in May. The nest is very often built in the orchard, on the horizontal branch of an apple tree ; frequently also, as Catesby observes, on a sassafras tree, at no great height from the ground. The outside consists of small slender twigs, tops of withered flowers of the plant yarrow, and others, well wove together with tow and wool ; and is made large, and remarkably firm and compact. It is usually lined with fine dry fibrous grass, and horse hair. The eggs are five, of a very pale cream color, or dull white, marked with a few large spots of deep purple, and other smaller ones of light brown, chiefly, though not altogether, towards the great end (See Fig. 1). They generally build twice in the season.

The King-bird is altogether destitute of song, having only the shrill twitter above mentioned. His usual mode of flight is singular. The vibrations of his broad wings, as he moves slowly over the fields, resemble those of a Hawk hovering and settling in the air to reconnoitre the ground below ; and the object of the King-bird is no doubt something similar, viz. to look out for passing insects, either in the air, or among the flowers and blossoms below him. In fields of pasture he often takes his stand, on the tops of the mullein, and other rank weeds, near the cattle, and makes occasional sweeps after passing insects, particularly the large black gad-fly, so terrifying to horses and cattle. His eye

moves restlessly around him, traces the flight of an insect for a moment or two, then that of a second, and even a third, until he perceives one to his liking, when with a shrill sweep he pursues, seizes it, and returns to the same spot again, to look out for more. This habit is so conspicuous when he is watching the bee-hive, that several intelligent farmers of my acquaintance are of opinion that he picks out only the *drones*, and never injures the working bees. Be this as it may, he certainly gives a preference to one bee, and one species of insect, over another. He hovers over the river, sometimes for a considerable time, darting after insects that frequent such places, snatching them from the surface of the water, and diving about in the air like a Swallow; for he possesses at will great powers of wing. Numbers of them are frequently seen thus engaged, for hours together, over the rivers Delaware and Schuylkill, in a calm day, particularly towards evening. He bathes himself by diving repeatedly into the water from the overhanging branches of some tree; where he sits to dry and dress his plumage.

Whatever antipathy may prevail against him for depredations on the drones, or if you will, on the bees, I can assure the cultivator, that this bird is greatly his friend, in destroying multitudes of insects whose larvæ prey on the harvests of his fields, particularly his corn, fruit trees, cucumbers, and pumpkins. These noxious insects are the daily food of this bird; and he destroys, upon a very moderate average, some hundreds of them daily. The death of every King-bird is therefore an actual loss to the farmer, by multiplying the numbers of destructive insects; and encouraging the depredations of Crows, Hawks, and Eagles, who avoid as much as possible his immediate vicinity. For myself, I must say, that the King-bird possesses no common share of my regard. I honor this little bird for his extreme affection for his young; for his contempt of danger, and unexampled intrepidity; for his meekness of behaviour when there are no calls on his courage, a quality which even in the human race is justly considered so noble;

"In peace there's nothing so becomes a man
As modest stillness and humility;
But when the blast of war," &c., &c.

but above all, I honor and esteem this bird for the millions of ruinous vermin which he rids us of; whose depredations, in *one* season, but for the services of this and other friendly birds, would far overbalance all the produce of the bee-hives in fifty.

As a friend to this persecuted bird, and an enemy to prejudices of every description, will the reader allow me to set this matter in a somewhat clearer and stronger light, by presenting him with a short poetical epitome of the King-bird's history?

FAR in the south, where vast *Maragnon* flows,
And boundless forests unknown wilds enclose ;
Vine-tangled shores, and suffocating woods,
Parched up with heat, or drowned with pouring floods ;
Where each extreme alternately prevails,
And Nature sad their ravages bewails ;
Lo ! high in air, above those trackless wastes,
With Spring's return the King-bird hither hastes ;
Coasts the famed Gulf,* and from his height explores,
Its thousand streams, its long indented shores,
Its plains immense, wide opening on the day,
Its lakes and isles where feathered millions play ;
All tempt not him ; till, gazing from on high,
COLUMBIA's regions wide below him lie ;
There end his wanderings and his wish to roam,
There lie his native woods, his fields, his *home* ;
Down, circling, he descends, from azure heights,
And on a full-blown sassafras alights.

Fatigued and silent, for a while he views
His old frequented haunts, and shades recluse,
Sees brothers, comrades, every hour arrive—
Hears, humming round, the tenants of the hive ;
Love fires his breast, he woos, and soon is blest ;
And in the blooming orchard builds his nest.

Come now, ye cowards ! ye whom Heaven disdains,
Who boast the happiest home—the richest plains ;
On whom, perchance, a wife, an infant's eye
Hang as their hope, and on your arm rely ;
Yet, when the hour of danger and dismay
Comes on that country, sneak in holes away,
Shrink from the perils ye were bound to face,
And leave those babes and country to disgrace ;
Come here (if such we have), ye dastard herd !
And kneel in dust before this noble bird.

When the specked eggs within his nest appear,
Then glows affection, ardent and sincere ;
No discord sours him when his mate he meets ;
But each warm heart with mutual kindness beats.
For her repast he bears along the lea
The bloated gad-fly and the balmy bee ;
For her repose scours o'er the adjacent farm,
Whence Hawks might dart, or lurking foes alarm ;
For now abroad a band of ruffians prey,
The Crow, the Cuckoo, and the insidious Jay ;
These, in the owner's absence, all destroy,
And murder every hope, and every joy.

Soft sits his brooding mate ; her guardian he,
Perched on the top of some tall neighboring tree ;
Thence, from the thicket to the concave skies,
His watchful eye around unceasing flies.

* Of Mexico.

Wrens, Thrushes, Warblers, startled at his note,
 Fly in affright the consecrated spot.
 He drives the plundering *Jay*, with honest scorn,
 Back to his woods ; the *Mocker* to his thorn ;
 Sweeps round the *Cuckoo*, as the thief retreats ;
 Attacks the *Crow* ; the diving *Hawk* defeats ;
 Darts on the *Eagle* downwards from afar,
 And midst the clouds prolongs the whirling war.
 All danger o'er, he hastens back elate,
 To guard his post and feed his faithful mate.

Behold him now, his little family flown,
 Meek, unassuming, silent, and alone ;
 Lured by the well-known hum of favorite bees,
 As slow he hovers o'er the garden trees ;
 (For all have failings, passions, whims that lead ;
 Some favorite wish, some appetite to feed) ;
 Strait he alights, and from the pear-tree spies
 The circling stream of humming insects rise ;
 Selects his prey ; darts on the busy brood,
 And shrilly twitters o'er his savory food.

Ah ! ill-timed triumph ! direful note to thee,
 That guides thy murderer to the fatal tree ;
 See where he skulks ! and takes his gloomy stand ;
 The deep-charged musket hanging in his hand ;
 And gaunt for blood, he leans it on a rest,
 Prepared, and pointed at thy snow-white breast.
 Ah friend ! good friend ! forbear that barbarous deed,
 Against it valor, goodness, pity plead ;
 If e'er a family's griefs, a widow's woe,
 Have reached thy soul, in mercy let him go !
 Yet, should the tear of pity nought avail,
 Let *interest* speak, let *gratitude* prevail ;
 Kill not thy friend, who thy whole harvest shields,
 And sweeps ten thousand vermin from thy fields ;
 Think how this dauntless bird, thy poultry's guard,
 Drove every Hawk and Eagle from thy yard ;
 Watched round thy cattle as they fed, and slew
 The hungry blackening swarms that round them flew ;
 Some small return, some little right resign,
 And spare *his* life whose services are thine !
 ———I plead in vain ! Amid the bursting roar
 The poor, lost KING-BIRD, welters in his gore.

This species is eight inches long, and fourteen in extent ; the general color above is a dark slaty ash ; the head and tail are nearly black ; the latter *even* at the end, and tipped with white ; the wings are more of a brownish cast ; the quills and wing coverts are also edged with dull white ; the upper part of the breast is tinged with ash ; the throat, and all the rest of the lower parts are pure white ; the plumage on the crown, though not forming a crest, is frequently erected, as represented in the plate, and discovers a rich bed of brilliant orange, or flame color.

called by the country people his crown; when the feathers lie close this is altogether concealed. The bill is very broad at the base, overhanging at the point, and notched, of a glossy black color, and furnished with bristles at the base; the legs and feet are black, seamed with gray; the eye hazel. The female differs in being more brownish on the upper parts, has a smaller streak of paler orange on the crown; and a narrower border of duller white on the tail. The young birds do not receive the orange on the head during their residence here the first season.

This bird is very generally known, from the lakes to Florida. Besides insects, they feed, like every other species of their tribe with which I am acquainted, on various sorts of berries, particularly blackberries, of which they are extremely fond. Early in September they leave Pennsylvania on their way to the south.

A few days ago, I shot one of these birds, the whole plumage of which was nearly white, or a little inclining to a cream color; it was a bird of the present year, and could not be more than a month old. This appeared also to have been its original color, as it issued from the egg. The skin was yellowish white; the eye much lighter than usual; the legs and bill blue. It was plump and seemingly in good order. I presented it to Mr. Peale. Whatever may be the cause of this loss of color, if I may so call it, in birds, it is by no means uncommon among the various tribes that inhabit the United States. The Sparrow Hawk, Sparrow, Robin, Red-winged Blackbird, and many others, are occasionally found in white plumage; and I believe that such birds do not become so by climate, age or disease, but that they are universally hatched so. The same phenomena are observable not only among various sorts of animals, but even among the human race; and a white negro is no less common, in proportion to their numbers, than a white Blackbird; though the precise cause of this in either is but little understood.

SPECIES II. *MUSCICAPA CRINITA*.

GREAT CRESTED FLYCATCHER.

[Plate XIII. Fig. 2.]

LINN. *Syst.* 325.—LATH. II., 357.—*Arct. Zool.* p. 386, No. 267.—*Le mouche rolle de Virginie à huppe verte*, BUFF. IV., 565. *Pl. Enl.* 569.

By glancing at the physiognomy of this bird and the rest of the figures on the same plate, it will readily be observed, that they all belong to one particular family of the same genus. They possess strong traits of their particular *cast*, and are all remarkably dexterous at their profession of fly-catching. The one now before us is less generally known than the preceding, being chiefly confined to the woods. There his harsh *squeak*, for he has no song, is occasionally heard above most others. He also visits the orchard; is equally fond of bees; but wants the courage and magnanimity of the King-bird. He arrives in Pennsylvania early in May, and builds his nest in a hollow tree deserted by the Blue-bird or Woodpecker. The materials of which this is formed are scanty, and rather novel. One of these nests, now before me, is formed of a little loose hay, feathers of the Guinea fowl, hog's bristles, pieces of cast snake skins, and dog's hair. Snake skins with this bird appear to be an indispensable article, for I have never yet found one of his nests without this material forming a part of it. Whether he surrounds his nest with this by way of *terrorem*, to prevent other birds or animals from entering; or whether it be that he finds its silky softness suitable for his young, is uncertain; the fact however is notorious. The female lays four eggs of a dull cream color thickly scratched with purple lines of various tints as if done with a pen. See fig. 2.

This species is eight inches and a half long, and thirteen inches in extent; the upper parts are of a dull greenish olive; the feathers on the head are pointed, centered with dark brown, ragged at the sides, and form a kind of blowzy crest; the throat and upper parts of the breast delicate ash; rest of the lower parts a sulphur yellow; the wing coverts are pale drab, crossed with two bars of dull white; the primaries are of a bright ferruginous or sorrel color; the tail is slightly forked, its interior vanes of the same bright ferruginous as the primaries; the bill is blackish, very much like that of the King-bird, furnished also with bristles; the eye is hazel; legs and feet bluish black. The female can scarcely be distinguished, by its colors, from the male.

This bird also feeds on berries towards the end of summer, particularly on huckleberries, which, during the time they last, seem to form the chief sustenance of the young birds. I have observed this species here as late as the tenth of September; rarely later. They do not, to my knowledge, winter in any of the Southern States.

SPECIES III. *MUSCICAPA NUNCIOLA*.*

PEWIT FLYCATCHER.

[Plate XIII. Fig. 4.]

BARTRAM, p. 289.—*Black-cap Flycatcher*, LATH. *Syn.* II., 353.—*Phœbe Flycatcher*, *Ibid.* *Sup.* p. 173.—*Le gobe-mouche noirâtre de la Caroline*, BUFF. IV., 541.—*Arct. Zool.* p. 387, No. 269.

THIS well-known bird is one of our earliest spring visitants, arriving in Pennsylvania about the first week in March, and continuing with us until October. I have seen them here as late as the 12th of November. In the month of February I overtook these birds lingering in the low swampy woods of North and South Carolina. They were feeding on smilax berries and chanting occasionally their simple notes. The favorite resort of this bird is by streams of water, under, or near bridges, in caves, &c. Near such places he sits on a projecting twig, calling out *pe-wee, pe-wit-titce pe-wee*, for a whole morning; darting after insects, and returning to the same twig; frequently flirting his tail, like the wagtail, though not so rapidly. He begins to build about the 20th or 25th of March, on some projecting part under a bridge—in a cave—in an open well five or six feet down among the interstices of the side walls—often under a shed—in the low eaves of a cottage, and such like places. The outside is composed of mud mixed with moss; is generally large and solid; and lined with flax and horse hair. The eggs are five, pure white, with two or three dots of red near the great end. See fig. 4. I have known them rear three broods in one season.

In a particular part of Mr. Bartram's woods, with which I am acquainted, by the side of a small stream, is a cave, five or six feet high, formed by the undermining of the water below, and the projection of two large rocks above:

There down smooth glistening rocks the rivulet pours,
Till in a pool its silent waters sleep,
A dark browed cliff, o'ertopped with fern and flowers,
Hangs, grimly louting, o'er the glassy deep;
Above through every chink the woodbines creep,
And smooth-barked beeches spread their arms around,
Whose roots cling twisted round the rocky steep;
A more sequestered scene is nowhere found,
For contemplation deep, and silent thought profound.

* *Muscicapa fusca*, GMEL. I., p. 931.—LATH. *Ind. Orn.* II., p. 483.
(135)

In this cave I knew the Pewit to build for several years. The place was solitary, and he was seldom disturbed. In the month of April, one fatal Saturday, a party of boys from the city, armed with guns, dealing indiscriminate destruction among the feathered tribes around them, directed their murderous course this way, and within my hearing destroyed both parents of this old and peaceful settlement. For two successive years, and I believe to this day, there has been no Pewee seen about this place. This circumstance almost convinces me that birds, in many instances, return to the same spots to breed; and who knows but like the savage nations of Indians they may usurp a kind of exclusive right of tenure to particular districts where they themselves have been reared?

The notes of the Pewee, like those of the Blue-bird, are pleasing, not for any melody they contain, but from the ideas of spring and returning verdure with all the sweets of this lovely season, which are associated with his simple but lively ditty. Towards the middle of June he becomes nearly silent; and late in the fall gives us a few farewell and melancholy repetitions, that recall past imagery, and make the decayed and withered face of nature appear still more melancholy.

The Pewit is six inches and a half in length, and nine and a half broad; the upper parts are of a dark dusky olive; the plumage of the head, like those of the two preceding, is loose, subcrested, and of a deep brownish black; wings and tail deep dusky, the former edged on every feather with yellowish white, the latter forked, and widening remarkably towards the end; bill formed exactly like that of the King-bird; whole lower parts a pale delicate yellow; legs and bill wholly black; iris hazel. The female is almost exactly like the male, except in having the crest somewhat more brown. This species inhabits from Canada to Florida; great numbers of them usually wintering in the two Carolinas and Georgia. In New York they are called the Phœby-bird, and are accused of destroying bees. With many people in the country, the arrival of the Pewee serves as a sort of almanac, reminding them that now it is time such and such work should be done. "Whenever the Pewit appears," says Mr. Bartram, "we may plant peas and beans in the open grounds, French beans, sow radishes, onions, and almost every kind of esculent garden seeds, without fear or danger from frosts; for although we have sometimes frosts after their first appearance for a night or two, yet not so severe as to injure the young plants."*

* Travels, page 288.

SPECIES IV. *MUSCICAPA RAPAX**

WOOD PEWEE FLYCATCHER.

[Plate XIII. Fig. 5.]

Muscicapa virens, LINN. *Syst.* 327.—LATH. *Syn.* II., 350.—Id. *Supp.* p. 174, No. 82.—CATESB. I., 54, fig. 1.—*Le gobe-mouche brun de la Caroline*, BUFF. IV., 543.—*Muscicapa acadica*, GMEL. *Syst.* I., p. 947.—*Arct. Zool.* 387, No. 270.

I HAVE given the name Wood Pewee to this species, to discriminate it from the preceding, which it resembles so much in form and plumage as scarcely to be distinguished from it, but by an accurate examination of both. Yet in manners, mode of building, period of migration and notes, the two species differ greatly. The Pewee is among the first birds that visit us in spring, frequenting creeks, building in caves and under arches of bridges; the *Wood Pewee*, the subject of our present account, is among the latest of our summer birds, seldom arriving before the twelfth or fifteenth of May; frequenting the shadiest high timbered woods, where there is little underwood, and abundance of dead twigs and branches shooting across the gloom, generally in low situations; builds its nest on the upper side of a limb or branch, forming it outwardly of moss; but using no mud; and lining it with various soft materials. The female lays five white eggs; and the first brood leave the nest about the middle of June.

This species is an exceeding expert Flycatcher. It loves to sit on the high dead branches, amid the gloom of the woods, calling out in a feeble plaintive tone, *peto way; peto way; pee way*; occasionally darting after insects; sometimes making a circular sweep of thirty or forty yards, snapping up numbers in its way with great adroitness; and returning to its position and chant as before. In the latter part of August its notes are almost the only ones to be heard in the woods; about which time, also, it even approaches the city, where I have frequently observed it busily engaged under trees, in solitary courts, gardens, &c., feeding and training its young to their profession. About the middle of September it retires to the south, a full month before the other.

Length six inches, breadth ten; back dusky olive, inclining to greenish; head subcrested and brownish black; tail forked and widen-

* *Muscicapa virens*, LINN., which name should be adopted.

ing towards the tips, lower parts pale yellowish white: the only discriminating marks between this and the preceding are the size, and the color of the lower mandible, which in this is yellow—in the Pewee black. The female is difficult to be distinguished from the male.

This species is far more numerous than the preceding; and probably winters much farther south. The Pewee was numerous in North and South Carolina, in February; but the Wood Pewee had not made its appearance in the lower parts of Georgia even so late as the sixteenth of March.

SPECIES V. *MUSCICAPA QUERULA*.*

SMALL GREEN, CRESTED FLYCATCHER.

[Plate XIII. Fig. 3.]

Muscicapa subviridis, BARTRAM, p. 289.—*Arct. Zool.* p. 386, No. 268.

THIS bird is but little known. It inhabits the deepest, thick shaded, solitary parts of the woods, sits generally on the lower branches, utters every half minute or so, a sudden sharp squeak, which is heard a considerable way through the woods; and as it flies from one tree to another has a low querulous note, something like the twitterings of chickens nestling under the wings of the hen. On alighting this sound ceases; and it utters its note as before. It arrives from the south about the middle of May; builds on the upper side of a limb, in a low swampy part of the woods, and lays five white eggs. It leaves us about the beginning of September. It is a rare and very solitary bird, always haunting the most gloomy, moist and unfrequented parts of the forest. It feeds on flying insects; devours bees; and in the season of huckleberries they form the chief part of its food. Its northern migrations extend as far as Newfoundland.

The length of this species is five inches and a half, in breadth nine inches; the upper parts are of a green olive color; the lower pale greenish yellow, darkest on the breast; the wings are deep brown, crossed with two bars of yellowish white, and a ring of the same surrounds the eye, which is hazel. The tail is *rounded* at the end; the bill is remarkably flat and broad, dark brown above, and flesh color below; legs and feet pale ash. The female differs little from the male in color.

* *Muscicapa acadica*, GMEL. I., p. 947.—LATH. *Ind. Orn.* II., p. 489.

SPECIES VI. *MUSCICAPA RUTICILLA*.

AMERICAN REDSTART.

[Plate VI. Fig. 6, Male.]

Muscicapa Ruticilla, LINN. *Syst.* I., 236, 10.—GMEL. *Syst.* I., 935.—*Motacilla flavicauda*, GMEL. *Syst.* I., 997 (female).—*Le Gobe-mouche d'Amerique*, BRISS. *Orn.* II., 383, 14. *Pl. Enl.* 566, fig. 1, 2.—*Small American Redstart*, EDW. 80. *Id.* 257 (female).—*Yellow-tailed Warbler*, *Arct. Zool.* II., No. 301. *Id.* II., No. 282.—LATHAM, *Syn.* IV., 427, 18.—*Arct. Zool.* II., No. 301 (female).

THOUGH this bird has been classed by several of our most respectable ornithologists among the Warblers, yet in no species are the characteristics of the genus *Muscicapa* more decisively marked; and in fact it is one of the most expert Flycatchers of its tribe. It is almost perpetually in motion; and will pursue a retreating party of flies from the tops of the tallest trees, in an almost perpendicular, but zigzag direction, to the ground, while the clicking of its bill is distinctly heard, and I doubt not but it often secures ten or twelve of these in a descent of three or four seconds. It then alights on an adjoining branch, traverses it lengthwise for a few moments, flirting its expanded tail from side to side, and suddenly shoots off, in a direction quite unexpected, after fresh game, which it can discover at a great distance. Its notes, or twitter, though animated and sprightly, are not deserving the name of song; sometimes they are *weese, weese, weese*, repeated every quarter of a minute, as it skips among the branches; at other times this twitter varies to several other chants, which I can instantly distinguish in the woods, but cannot find words to imitate. The interior of the forest, the borders of swamps and meadows, deep glens covered with wood, and wherever flying insects abound, there this little bird is sure to be seen. It makes its appearance in Pennsylvania, from the south, late in April; and leaves us again about the beginning of September. It is very generally found over the whole United States; and has been taken at sea, in the fall, on its way to St. Domingo,* and other of the West India islands, where it winters, along with many more of our summer visitants. It is also found in Jamaica, where it remains all winter.†

The name Redstart, evidently derived from the German *Rothsterts* (red tail), has been given this bird from its supposed resemblance to the

* Edwards.

† Sloane.

Redstart of Europe (*Motacilla phoeniceus*); but besides being decisively of a different genus, it is very different both in size and in the tints and disposition of the colors of its plumage. Buffon goes even so far as to question whether the differences between the two be more than what might be naturally expected from change of climate. This eternal reference of every animal of the new world to that of the old, if adopted to the extent of this writer, with all the transmutations it is supposed to have produced, would leave us in doubt whether even the *Ka-te-dids** of America were not originally Nightingales of the old world, degenerated by the inferiority of the food and climate of this upstart continent. We have in America many different species of birds that approach so near in resemblance to one another, as not to be distinguished but by the eye of a naturalist, and on a close comparison; these live in the same climate, feed on the same food, and are, I doubt not, the same now as they were five thousand years ago; and ten thousand years hence, if the species then exist, will be found marked with the same nice discriminations as at present. Is it therefore surprising, that two different species placed in different quarters of the world, should have certain near resemblances to one another without being bastards, or degenerated descendants, the one of the other, when the whole chain of created beings seem united to each other by such amazing gradations, that bespeak, not random chance and accidental degeneracy, but the magnificent design of an incomprehensibly wise and omnipotent Creator?

The American Redstart builds frequently in low bushes, in the fork of a small sapling, or on the drooping branches of the elm, within a few feet of the ground; outwardly it is formed of flax well wound together, and moistened with its saliva, interspersed here and there with pieces of lichen, and lined with a very soft downy substance. The female lays five white eggs, sprinkled with gray, and specks of blackish. The male is extremely anxious for its preservation; and on a person's approaching the place will flirt about within a few feet, seeming greatly distressed.

The length of this species is five inches, extent six and a quarter; the general color above is black, which covers the whole head and neck, and spreads on the upper part of the breast in a rounding form; where, as well as on the head and neck, it is glossed with steel blue; sides of the breast, below this black, the inside of the wings, and upper half of the wing-quills, are of a fine aurora color; but the greater and lesser coverts of the wings being black conceal this; and the orange, or aurora color, appears only as a broad transverse band across the wings; from thence to the tip they are brownish; the four middle feathers of the tail are black, the other eight of the same aurora color, and black towards

* A species of *Gryllus*, well known for its lively chatter during the evenings and nights of September and October.

the tips ; belly and vent white, slightly streaked with pale orange ; legs black ; bill of the true *Muscicapa* form, triangular at the base, beset with long bristles, and notched near the point ; the female has not the rich aurora band across the wing ; her back and crown is cinereous inclining to olive ; the white below is not so pure ; lateral feathers of the tail and sides of the breast greenish yellow ; middle tail feathers dusky brown. The young males of a year old are almost exactly like the female, differing in these particulars, that they have a yellow band across the wings which the female has not, and the back is more tinged with brown ; the lateral tail feathers are also yellow ; middle ones brownish black ; inside of the wings yellow. On the third season they receive their complete colors ; and as males of the second year, in nearly the dress of the female, are often seen in the woods, having the same notes as the full plumaged male, it has given occasion to some people to assert, that the females sing as well as the males ; and others have taken them for another species. The fact, however, is as I have stated it. This bird is too little known by people in general to have any provincial name.

MUSCICAPA RUTICILLA.

REDSTART.

[Plate XLV. Fig. 2, Young Bird.]

THE male of this species may be seen in his perfect dress, in Plate VI. ; the present figure represents the young bird as he appears for the first two seasons ; the female differs very little from this, chiefly in the green olive ; being more inclined to ash.

This is one of our summer birds, and from the circumstance of being found off Hispaniola in November, is supposed to winter in the islands. They leave Pennsylvania about the twentieth of September ; are dexterous flycatchers, though ranked by European naturalists among the warblers, having the bill notched and beset with long bristles.

In its present dress the Redstart makes its appearance in Pennsylvania about the middle or twentieth of April ; and from being heard chanting its few sprightly notes has been supposed by some of our own naturalists to be a different species. I have, however, found both parents of the same nest in the same dress nearly ; the female, eggs and nest, as well as the notes of the male, agreeing exactly with those of the Redstart ; evidence sufficiently satisfactory to me.

Head above dull slate ; throat pale buff ; sides of the breast and four

exterior tail feathers fine yellow, tipped with dark brown; wings and back greenish olive; tail coverts blackish, tipped with ash; belly dull white; no white or yellow on the wings; legs dirty purplish brown; bill black.

The Redstart extends very generally over the United States; having myself seen it on the borders of Canada, and also in the Mississippi territory.

This species has the constant habit of flitting its expanded tail from side to side as it runs along the branches, with its head levelled almost in a line with its body; occasionally shooting off after winged insects, in a downward zigzag direction, and with admirable dexterity, snapping its bill as it descends. Its notes are few and feeble, repeated at short intervals as it darts among the foliage; having at some times a resemblance to the sounds *sic sic saic*; at others of *weesy weesy weesy*; which last seems to be its call for the female, while the former appears to be its most common note.

SPECIES VII. *MUSCICAPA CÆRULEA*.

BLUE-GRAY FLYCATCHER.

[Plate XVIII. Fig. 5.]

Motacilla cærulea, TURTON, *Syst.* I., p. 612.—*Blue Flycatcher*, EDW. PL. 302.—*Regulus griseus*, the little Bluish Gray Wren, BARTRAM, p. 291.—*Le Figuier gris de fer*, BUFF. V., p. 309.—*Cærulean Warbler*, ARCT. ZOO. II., No. 299.—LATH. SYN. VI., p. 490, No. 127.

THIS diminutive species, but for the length of the tail, would rank next to our Humming-bird in magnitude. It is a very dexterous Flycatcher, and has also something of the manners of the Titmouse, with whom, in early spring and fall, it frequently associates. It arrives in Pennsylvania from the south about the middle of April; and about the beginning of May builds its nest, which it generally fixes among the twigs of a tree, sometimes at the height of ten feet from the ground, sometimes fifty feet high, on the extremities of the tops of a high tree in the woods. This nest is formed of very slight and perishable materials, the husks of buds, stems of old leaves, withered blossoms of weeds, down from the stalks of fern, coated on the outside with gray lichen, and lined with a few horse hairs. Yet in this frail receptacle, which one would think scarcely sufficient to admit the body of the owner, and sustain even its weight, does the female Cow-bird venture to deposit her egg; and to the management of these pigmy nurses leaves the fate of her helpless young. The motions of this little bird are quick; he seems

always on the lookout for insects; darts about from one part of the tree to another with hanging wings and erected tail, making a feeble chirpings, *tsee, tsee*, no louder than a mouse. Though so small in itself, it is ambitious of hunting on the highest branches, and is seldom seen among the humbler thickets. It remains with us until the twentieth or twenty-eighth of September, after which we see no more of it until the succeeding spring. I observed this bird near Savannah, in Georgia, early in March; but it does not winter even in the southern parts of that state.

The length of this species is four inches and a half, extent six and a half; front and line over the eye black; bill black, very slender, overhanging at the tip, notched, broad, and furnished with bristles at the base; the color of the plumage above is a light bluish gray, bluest on the head, below bluish white; tail longer than the body, a little rounded and black, except the exterior feathers, which are almost all white, and the next two also tipped with white; tail coverts black; wings brownish black, some of the secondaries next the body edged with white; legs extremely slender, about three-fourths of an inch long, and of a bluish black color. The female is distinguished by wanting the black line round the front.

The food of this bird is small winged insects and their larvæ, but particularly the former, which it seems almost always in pursuit of.

SPECIES VIII. *MUSCICAPA SYLVICOLA*.*

YELLOW-THROATED FLYCATCHER.

[Plate VII. Fig. 3.]

THIS summer species is found chiefly in the woods, hunting among the high branches; and has an indolent and plaintive note, which it repeats, with some little variation, every ten or twelve seconds, like *preeo—preea*, &c. It is often heard in company with the Red-eyed Flycatcher (*Muscicapa olivacea*), or Whip-Tom-Kelly of Jamaica; the loud energetic notes of the latter, mingling with the soft languid warble of the former, producing an agreeable effect, particularly during the burning heat of noon, when almost every other songster but these two is silent. Those who loiter through the shades of our magnificent forests at that hour, will easily recognise both species. It arrives from the south early in May, and returns again with its young about the middle of September. Its nest, which is sometimes fixed on the upper side of

* *Vireo flavifrons*, Ois. de l'Am. Sept. VIEILLOT, pl. 54.

a limb, sometimes on a horizontal branch among the twigs, generally on a tree, is composed outwardly of thin strips of the bark of grape-vines, moss, lichens, &c., and lined with fine fibres of such like substances; the eggs, usually four, are white, thinly dotted with black, chiefly near the great end. Winged insects are its principal food.

Whether this species has been described before or not I must leave to the sagacity of the reader, who has the opportunity of examining European works of this kind, to discover.* I have met with no description in Pennant, Buffon, or Latham, that will properly apply to this bird, which may perhaps be owing to the imperfection of the account, rather than ignorance of the species, which is by no means rare.

The Yellow-throated Flycatcher is five inches and a half long, and nine inches from tip to tip of the expanded wings; the upper part of the head, sides of the neck, and the back, are of a fine yellow olive; throat, breast and line over the eye, which it nearly encircles, a delicate lemon yellow, which in a lighter tinge lines the wings; belly and vent pure silky white; lesser wing coverts, lower part of the back, and rump, ash; wings deep brown, almost black, crossed with two white bars; primaries edged with light ash, secondaries with white; tail a little forked, of the same brownish black with the wings, the three exterior feathers edged on each vane with white; legs and claws light blue; the two exterior toes united to the middle one as far as the second joint; bill broad at the base, with three or four slight bristles, the upper mandible overhanging the lower at the point, near which it is deeply notched; tongue thin, broad, tapering near the end, and bifid; the eye is of a dark hazel; and the whole bill of a dusky light blue. The female differs very little in color from the male; the yellow on the breast and round the eye is duller, and the white on the wings less pure.

SPECIES IX. *MUSCICAPA SOLITARIA*.

SOLITARY FLYCATCHER.

[Plate XVII. Fig. 6, Male.]

THIS rare species I can find nowhere described. I have myself never seen more than three of them; all of whom corresponded in their markings; and on dissection were found to be males. It is a silent, solitary bird. It is also occasionally found in the state of Georgia, where I saw a drawing of it in the possession of Mr. Abbot, who con-

* See "Orange-throated Warbler." LATH. *Syn.* II., 481, 103.

sidered it a very scarce species. He could give me no information of the female. The one from which the figure in the plate was taken, was shot in Mr. Bartram's woods, near Philadelphia, among the branches of dogwood, in the month of October. It appears to belong to a particular family, or subdivision of the *Muscicapa* genus, among which are the White-eyed, the Yellow-throated, and several others already described in the present work. Why one species should be so rare, while another, much resembling it, is so numerous, at least a thousand for one, is a question I am unable to answer; unless by supposing the few we meet with here to be accidental stragglers from the great body, which may have their residence in some other parts of our extensive continent.

The Solitary Flycatcher is five inches long, and eight inches in breadth; cheeks and upper part of the head and neck, a fine bluish gray; breast pale cinereous; flanks and sides of the breast yellow; whole back and tail coverts green olive; wings nearly black; the first and second row of coverts tipped with white; the three secondaries next the body edged with pale yellowish white; the rest of the quills bordered with light green; tail slightly forked, of the same tint as the wings, and edged with light green; from the nostrils a line of white proceeds to and encircles the eye; lores black; belly and vent white; upper mandible black; lower light blue; legs and feet light blue; eyes hazel.

SPECIES X. *MUSCICAPA CANTATRIX*.

WHITE-EYED FLYCATCHER.

[Plate XVIII. Fig. 6.]

Muscicapa noveboracensis, GMEL. *Syst.* I., p. 947.—*Hanging Flycatcher*, LATH. *Syn. Supp.* p. 174.—*Arct. Zool.* p. 389, No. 274.—*Muscicapa cantatrix*, the little Domestic Flycatcher, or Green Wren, BARTRAM, p. 290.*

THIS is another of the Cow-bird's adopted nurses; a lively, active, and sociable little bird, possessing a strong voice for its size, and a great variety of notes; and singing with little intermission, from its first arrival about the middle of April to a little before its departure in September. On the twenty-seventh of February I heard this bird in the southern parts of the state of Georgia, in considerable numbers, singing with great vivacity. They had only arrived a few days before. Its arrival in Pennsylvania, after an interval of seven weeks, is a proof that our birds of passage, particularly the smaller species, do not migrate

* *Vireo musicus*, VIEILLOT, *Ois. de l'Am. Sept.* pl. 52.

at once from south to north; but progress daily, keeping company, as it were, with the advances of spring. It has been observed in the neighborhood of Savannah, so late as the middle of November; and probably winters in Mexico, and the West Indies.

This bird builds a very neat little nest, often in the figure of an inverted cone; it is suspended by the upper edge of the two sides, on the circular bend of a prickly vine, a species of smilax that generally grows in low thickets. Outwardly it is constructed of various light materials, bits of rotten wood, fibres of dry stalks, of weeds, pieces of paper, commonly newspapers, an article almost always found about its nest, so that some of my friends have given it the name of the *Politician*; all these substances are interwoven with the silk of caterpillars, and the inside is lined with fine dry grass and hair. The female lays five eggs, pure white, marked near the great end with a very few small dots of deep black or purple. They generally raise two broods in a season. They seem particularly attached to thickets of this species of smilax, and make a great ado when any one comes near their nest; approaching within a few feet, looking down, and scolding with great vehemence. In Pennsylvania they are a numerous species.

The White-eyed Flycatcher is five inches and a quarter long, and seven in extent; the upper parts are a fine yellow olive, those below white, except the sides of the breast, and under the wings, which are yellow; line round the eye, and spot near the nostril also rich yellow; wings deep dusky black, edged with olive green, and crossed with two bars of pale yellow; tail forked, brownish black, edged with green olive; bill, legs and feet light blue; the sides of the neck incline to a grayish ash. The female, and young of the first season, are scarcely distinguishable in plumage from the male.

SPECIES XI. *MUSCICAPA MELODIA*.*

WARBLING FLYCATCHER.

[Plate XLII. Fig. 2.]

THIS sweet little warbler is for the first time figured and described. In its general appearance it resembles the Red-eyed Flycatcher; but on a close comparison differs from that bird in many particulars. It arrives in Pennsylvania about the middle of April, and inhabits the thick foliage of orchards and high trees; its voice is soft, tender and soothing, and its notes flow in an easy continued strain that is extremely

* *Muscicapa gilva*, VIEILLOT, *Ois. de L'Am. Sept.* pl. 34.

pleasing. It is often heard among the weeping willows and Lombardy poplars of the city; is rarely observed in the woods; but seems particularly attached to the society of man. It gleams among the leaves, occasionally darting after winged insects, and searching for caterpillars; and seems by its manners to partake considerably of the nature of the genus *Sylvia*. It is late in departing, and I have frequently heard its notes among the fading leaves of the poplar in October.

This little bird may be distinguished from all the rest of our songsters by the soft tender easy flow of its notes, while hid among the foliage. In these there is nothing harsh, sudden or emphatical; they glide along in a kind of meandering strain that is peculiarly its own. In May and June it may be generally heard in the orchards, the borders of the city, and around the farm-house.

This species is five inches and a half long, and eight inches and a half in extent; bill dull lead color above, and notched near the point, lower a pale flesh color; eye dark hazel; line over the eye and whole lower parts white, the latter tinged with very pale greenish yellow near the breast; upper parts a pale green olive; wings brown, broadly edged with pale olive green; tail slightly forked, edged with olive; the legs and feet pale lead; the head inclines a little to ash; no white on the wings or tail. Male and female nearly alike.

SPECIES XII. *MUSCICAPA OLIVACEA*.

RED-EYED FLYCATCHER.

[Plate XII. Fig. 2.]

LINN. *Syst.* I., p. 327, 14.—*Gobe-mouche de la Caroline et de la Jamaïque*, BUFF. IV., p. 539, EDW. t. 253.—CATESB. t. 54.—LATH. *Syn.* III., p. 351, No. 52.—*Muscicapa sylvicola*, BARTRAM, p. 290.*

THIS is a numerous species, though confined chiefly to the woods and forests, and, like all the rest of its tribe that visit Pennsylvania, is a bird of passage. It arrives here late in April; has a loud, lively and energetic song, which it continues, as it hunts among the thick foliage, sometimes for an hour with little intermission. In the months of May, June, and to the middle of July, it is the most distinguishable of all the other warblers of the forest; and even in August, long after the rest have almost all become mute, the notes of the Red-eyed Flycatcher are frequently heard with unabated spirit. These notes are in short, emphatical bars, of two, three, or four syllables. In Jamaica, where

* *Muscicapa altiloqua*, VIEILL. *Ois. de l'Am. Sept.* pl. 38.

this bird winters, and is probably also resident, it is called, as Sloane informs us, "Whip-Tom Kelly," from an imagined resemblance of its notes to these words. And indeed, on attentively listening for some time to this bird in his full ardor of song, it requires but little of imagination to fancy that you hear it pronounce these words, "Tom Kelly! Whip-Tom Kelly!" very distinctly. It inhabits from Georgia to the river St. Lawrence, leaving Pennsylvania about the middle of September.

This bird builds in the month of May a small neat pensile nest, generally suspended between two twigs of a young dogwood or other small sapling. It is hung by the two upper edges, seldom at a greater height than four or five feet from the ground. It is formed of pieces of hornets' nests, some flax, fragments of withered leaves, slips of vine bark, bits of paper, all glued together with the saliva of the bird, and the silk of caterpillars, so as to be very compact; the inside is lined with fine slips of grape-vine bark, fibrous grass, and sometimes hair. These nests are so durable that I have often known them to resist the action of the weather for a year; and in one instance I found the nest of the Yellow-bird built in the cavity of one of these of the preceding year. The mice very often take possession of them after they are abandoned by the owners. The eggs are four, sometimes five, pure white, except near the great end, where they are marked with a few small dots of dark brown or reddish. They generally raise two broods in a season.

The Red-eyed Flycatcher is one of the adopted nurses of the Cowbird, and a very favorite one, showing all the symptoms of affection for the foundling, and as much solicitude for its safety, as if it were its own. The figure of that singular bird, accompanied by a particular account of its history, is given in Plate XVIII. of the present work.

Before I take leave of this bird, it may not be amiss to observe that there is another, and a rather less species of Flycatcher, somewhat resembling the Red-eyed, which is frequently found in its company. Its eyes are hazel, its back more cinereous than the other, and it has a single light streak over the eye. The notes of this bird are low, somewhat plaintive, but warbled out with great sweetness; and form a striking contrast with those of the Red-eyed Flycatcher. I think it probable that Dr. Barton had reference to this bird when he made the following remarks. See his "Fragments of the Natural History of Pennsylvania," page 19. "*Muscicapa olivacea*.—I do not think with Mr. Pennant that this is the same bird as the Whip-Tom-Kelly of the West Indies. Our bird has no such note; but a great variety of soft, tender and agreeable notes. It inhabits forests; and does not, like the West India bird, build a pendulous nest." Had the learned Professor, however, examined into this matter with his usual accuracy, he would

have found, that the *Muscicapa olivacea*, and the soft and tender songster he mentions, are two very distinct species; and that both the one and the other actually build very curious pendulous nests.

This species is five inches and a half long, and seven inches in extent; crown ash, slightly tinged with olive, bordered on each side with a line of black, below which is a line of white passing from the nostril over and a little beyond the eye; the bill is longer than usual with birds of its tribe, the upper mandible overhanging the lower considerably and notched, dusky above, and light blue below; all the rest of the plumage above is of a yellow olive, relieved on the tail and at the tips of the wings with brown; chin, throat, breast and belly pure white; inside of the wings and vent feathers greenish yellow; the tail is very slightly forked; legs and feet light blue; iris of the eye red. The female is marked nearly in the same manner, and is distinguishable only by the greater obscurity of the colors.

SPECIES XIII. *MUSCICAPA CUCULLATA*.

HOODED FLYCATCHER.

[Plate XXVI. Fig. 3.]

Le Gobe-mouche citrin, BUFFON, IV., 538. *Pl. Enl.* 666.—*Hooded Warbler*, *Arct. Zool.* p. 400, No. 287.—LATHAM, II., 462.—CATESBY, I., 60.—*Mitred Warbler*, TURTON, I., 601. *Hooded Warbler*, *Ibid.**

WHY those two judicious naturalists, Pennant and Latham, should have arranged this bird with the Warblers is to me unaccountable; as few of the *Muscicapæ* are more distinctly marked than the species now before us. The bill is broad at the base, where it is beset with bristles; the upper mandible notched, and slightly overhanging at the tip; and the manners of the bird, in every respect, those of a Flycatcher. This species is seldom seen in Pennsylvania and the Northern States; but through the whole extent of country south of Maryland, from the Atlantic to the Mississippi, is very abundant. It is however most partial to low situations, where there is plenty of thick underwood; abounds among the canes in the state of Tennessee, and in the Mississippi territory; and seems perpetually in pursuit of winged insects; now and then uttering three loud not unmusical and very lively notes, resembling *twée, twée, twitchie*, while engaged in the chase. Like almost all its tribe

* We add the following synonymes:—*Motacilla mitrata*, GMEL. I., p. 977.—*Sylvia mitrata*, LATH. *Ind. Orn.* II., p. 528.—VIEILL. *Ois. d'Am. Sept.* pl. 77.—*Sylvia cucullata*, LATH. *Ind. Orn.* II., p. 528.

it is full of spirit, and exceedingly active. It builds a very neat and compact nest, generally in the fork of a small bush, forms it outwardly of moss and flax, or broken hemp, and lines it with hair, and sometimes feathers; the eggs are five, of a grayish white, with red spots towards the great end. In all parts of the United States, where it inhabits, it is a bird of passage. At Savannah I met with it about the twentieth of March; so that it probably retires to the West India islands, and perhaps Mexico, during winter. I also heard this bird among the rank reeds and rushes within a few miles of the mouth of the Mississippi. It has been sometimes seen in the neighborhood of Philadelphia; but rarely; and on such occasions has all the mute timidity of a stranger, at a distance from home.

This species is five inches and a half long, and eight in extent; forehead, cheeks and chin yellow, surrounded with a hood of black that covers the crown, hind head, and part of the neck, and descends, rounding, over the breast; all the rest of the lower parts are rich yellow; upper parts of the wings, the tail and back, yellow olive; interior vanes and tips of the wing and tail dusky; bill black; legs flesh colored; inner webs of the three exterior tail feathers white for half their length from the tips; the next slightly touched with white; the tail slightly forked, and exteriorly edged with rich yellow olive.

The female has the throat and breast yellow, slightly tinged with blackish; the black does not reach so far down the upper part of the neck, and is not of so deep a tint. In the other parts of her plumage she exactly resembles the male. I have found some females that had little or no black on the head or neck above; but these I took to be young birds, not yet arrived at their full tints.

SPECIES XIV. *MUSCICAPA CANADENSIS*.*

CANADA FLYCATCHER.

[Plate XXVI. Fig. 2, Male.]

LINN. *Syst.* 324.—*Arct. Zool.* p. 338, No. 273.—LATHAM, II., 354.

THIS is a solitary, and in the lower parts of Pennsylvania, rather a rare species; being more numerous in the interior, particularly near the mountains, where the only two I ever met with were shot. They are silent birds, as far as I could observe; and were busily darting among

* *Sylvia pardalina*, BONAPARTE *Obs.* No. 126.—*Ibid.* *SYNOPSIS*. No. 108.

the branches after insects. From the specific name given them it is probable that they are more plenty in Canada than in the United States; where it is doubtful whether they be not mere passengers in spring and autumn.

This species is four inches and a half long, and eight in extent; front black; crown dappled with small streaks of gray and spots of black; line from the nostril to and around the eye yellow; below the eye a streak or spot of black, descending along the sides of the throat, which, as well as the breast and belly, is brilliant yellow, the breast being marked with a broad rounding band of black, composed of large irregular streaks; back, wings and tail cinereous brown; vent white; upper mandible dusky, lower flesh colored; legs and feet the same; eye hazel.

Never having met with the female of this bird I am unable at present to say in what its colors differ from those of the male.

SPECIES XV. *MUSCICAPA PUSILLA*.*

GREEN BLACK-CAPPED FLYCATCHER.

[Plate XXVI. Fig. 4, Male.]

THIS neat and active little species I have never met with in the works of any European naturalist. It is an inhabitant of the swamps of the Southern States, and has been several times seen in the lower parts of the states of New Jersey and Delaware. Amidst almost unapproachable thickets of deep morasses it commonly spends its time, during summer, and has a sharp squeaking note, nowise musical. It leaves the Southern States early in October.

This species is four inches and a half long, and six and a half in extent; front line over the eye and whole lower parts yellow, brightest over the eye and dullest on the cheeks, belly and vent, where it is tinged with olive; upper parts olive green; wings and tail dusky brown, the former very short; legs and bill flesh colored; crown covered with a patch of deep black; iris of the eye hazel.

The female is without the black crown, having that part of a dull yellow olive, and is frequently mistaken for a distinct species. From her great resemblance, however, in other respects to the male, now first figured, she cannot hereafter be mistaken.

* *Sylvia Wilsonii*, BONAPARTE, *Obs.* No. 126.—*Ibid.* SYNOP. 135.

SPECIES XVI. *MUSCICAPA MINUTA.*

SMALL-HEADED FLYCATCHER.

[Plate L. Fig. 5, Male.]

THIS very rare species is the only one I have met with, and is drawn reduced to half its size, to correspond with the rest of the figures on the same plate. It was shot on the twenty-fourth of April, in an orchard, and was remarkably active, running, climbing and darting about among the opening buds and blossoms with extraordinary agility. From what quarter of the United States or of North America it is a wanderer, I am unable to determine, having never before met with an individual of the species. Its notes and manner of breeding are also alike unknown to me. This was a male: it measured five inches long, and eight and a quarter in extent; the upper parts were dull yellow olive; the wings dusky brown edged with lighter; the greater and lesser coverts tipped with white; the lower parts dirty white, stained with dull yellow, particularly on the upper parts of the breast; the tail dusky brown, the two exterior feathers marked like those of many others with a spot of white on the inner vanes; head remarkably small; bill broad at the base, furnished with bristles, and notched near the tip; legs dark brown: feet yellowish; eye dark hazel.

Since writing the above I have shot several individuals of this species in various quarters of New Jersey, particularly in swamps. They all appear to be nearly alike in plumage. Having found them there in June, there is no doubt of their breeding in that state, and probably in such situations far to the southward; for many of the southern summer birds that rarely visit Pennsylvania, are yet common to the swamps and pine woods of New Jersey. Similarity of soil and situation, of plants and trees, and consequently of fruits, seeds, insects, &c., are doubtless their inducements. The summer Red-bird, Great Carolina Wren, Pine-creeping Warbler, and many others, are rarely seen in Pennsylvania, or to the northward, though they are common in many parts of West Jersey.

GENUS XLI. ALAUDA. LARK.

SPECIES I. *A. MAGNA*.*

MEADOW LARK.

[Plate XIX. Fig. 2.]

LINN. *Syst.* 289.—*Crescent Stare*, *Arct. Zool.* 330, No. 192.—LATHAM, III., 6, *Var. A.*—*Le Fer-à-cheval, ou Merle à Collier d'Amerique*, BUFF. III., p. 371.—CATESB. *Car.* I., pl. 33.—BARTRAM, p. 290.

THOUGH this well-known species cannot boast of the powers of song which distinguish that "harbinger of day," the Sky Lark of Europe, yet in richness of plumage, as well as in sweetness of voice (as far as his few notes extend), he stands eminently its superior. He differs from the greater part of his tribe in wanting the long straight hind claw, which is probably the reason why he has been classed, by some late naturalists, with the Starlings. But in the particular form of his bill, in his manners, plumage, mode and place of building his nest, nature has clearly pointed out his proper family.

This species has a very extensive range; having myself found them in Upper Canada, and in each of the states from New Hampshire to New Orleans. Mr. Bartram also informs me that they are equally abundant in East Florida. Their favorite places of retreat are pasture fields and meadows, particularly the latter, which have conferred on them their specific name; and no doubt supply them abundantly with the particular seeds and insects on which they feed. They are rarely or never seen in the depth of the woods; unless where, instead of under-wood, the ground is covered with rich grass, as in the Choctaw and Chickasaw countries, where I met with them in considerable numbers in the months of May and June. The extensive and luxuriant prairies between Vincennes and St. Louis also abound with them.

It is probable that in the more rigorous regions of the north they may be birds of passage, as they are partially so here; though I have seen them among the meadows of New Jersey, and those that border the rivers Delaware and Schuylkill, in all seasons; even when the ground

* *Alauda magna*, LINN. *Syst.* I., p. 167, Ed. 10.—GMEL. *Syst.* I., p. 801.—*Merula Americana torquata*, BRISS. *Av.* II., p. 242, No. 15.—(Summer dress.) *Sturnus ludovicianus*, LINN. *Syst.* I., p. 290.—GMEL. *Syst.* I., p. 802.—BRISSON, II., p. 449, 4, t. 42, f. 1.—LATH. *Ind. Orn.* I. 323.—*Etourneau de la Louisiane*, BUFF. III., p. 192.—*Pl. Enl.* 256.—(Winter plumage.)

was deeply covered with snow. There is scarcely a market day in Philadelphia, from September to March, but they may be found in market. They are generally considered, for size and delicacy, little inferior to the quail, or what is here usually called the partridge, and valued accordingly. I once met with a few of these birds in the month of February, during a deep snow, among the heights of the Alleghany between Shippensburg and Somerset, gleaning on the road, in company with the small Snow-birds. In the states of South Carolina and Georgia, at the same season of the year, they swarm among the rice plantations, running about the yards and out-houses, accompanied by the Kildeers, with little appearance of fear, as if quite domesticated.

These birds, after the building season is over, collect in flocks; but seldom fly in a close compact body; their flight is something in the manner of the grouse and partridge, laborious and steady; sailing, and renewing the rapid action of the wings alternately. When they alight on trees or bushes, it is generally on the tops of the highest branches, whence they send forth a long, clear, and somewhat melancholy note, that in sweetness and tenderness of expression is not surpassed by any of our numerous warblers. This is sometimes followed by a kind of low, rapid chattering, the particular call of the female; and again the clear and plaintive strain is repeated as before. They afford tolerably good amusement to the sportsman, being most easily shot while on wing; as they frequently squat among the long grass, and spring within gunshot. The nest of this species is built generally in, or below, a thick tuft or tussock of grass; it is composed of dry grass, and fine bent laid at bottom, and wound all around, leaving an arched entrance level with the ground; the inside is lined with fine stalks of the same materials, disposed with great regularity. The eggs are four, sometimes five, white, marked with specks and several large blotches of reddish brown, chiefly at the thick end. Their food consists of caterpillars, grub worms, beetles, and grass seeds; with a considerable proportion of gravel. Their general name is the *Meadow Lark*; among the Virginians they are usually called the *Old field Lark*.

The length of this bird is ten inches and a half, extent sixteen and a half; throat, breast, belly, and line from the eye to the nostrils, rich yellow; inside lining and edge of the wing the same; an oblong crescent of deep velvety black ornaments the lower part of the throat; lesser wing-coverts black, broadly bordered with pale ash; rest of the wing feathers light brown, handsomely serrated with black; a line of yellowish white divides the crown, bounded on each side by a stripe of black intermixed with bay, and another line of yellowish white passes over each eye backwards; cheeks bluish white, back and rest of the upper parts beautifully variegated with black, bright bay, and pale ochre: tail wedged, the feathers neatly pointed, the four outer ones on

each side, nearly all white; sides, thighs, and vent pale yellow ochre, streaked with black; upper mandible brown, lower bluish white; eyelids furnished with strong black hairs; legs and feet very large, and of a pale flesh color.

The female has the black crescent more skirted with gray, and not of so deep a black. In the rest of her markings the plumage differs little from that of the male. I must here take notice of a mistake committed by Mr. Edwards in his history of Birds, Vol. VI., p. 123, where, on the authority of a bird dealer of London, he describes the Calandre Lark (a native of Italy and Russia) as belonging also to North America, and having been brought from Carolina. I can say with confidence, that in all my excursions through that and the rest of the Southern States, I never met such a bird, nor any person who had ever seen it. I have no hesitation in believing that the Calandre is not a native of the United States.

SPECIES II. *ALAUDA ALPESTRIS*.*

SHORE LARK.

[Plate V. Fig. 4.]

Alda alpestris, LINN. *Syst.* 289.—LATH. *Syn.* II., 385.—*Alda campestris gutture flavo*, BARTRAM, p. 290.—*L'Alouette de Virginie*, BUFF. V., 55.—CATESB. I., 32.†

THIS is the most beautiful of its genus, at least in this part of the world. It is one of our winter birds of passage, arriving from the north in the fall; usually staying with us the whole winter, frequenting sandy plains and open downs, and is numerous in the Southern States, as far as Georgia, during that season. They fly high, in loose scattered flocks; and at these times have a single cry, almost exactly like the Sky-Lark of Britain. They are very numerous in many tracts of New Jersey; and are frequently brought to Philadelphia market. They are then generally very fat, and are considered excellent eating. Their food seems principally to consist of small round compressed black seeds, buckwheat, oats, &c., with a large proportion of gravel. On the flat commons, within the boundaries of the city of Philadelphia, flocks of them

* Of the three species referred by Wilson to *Alda* this is the only one which belongs to that genus, as restricted by modern ornithologists.

† We add the following synonymes:—*Alda alpestris*, LINN. *Ed.* 10. *Syst.* I., p. 166.—GMEL. *Syst.* I., p. 800.—LATH. *Ind. Orn.* II., p. 498.—*Alda flava*, GMEL. *Syst.* I., p. 800, (adult male in breeding dress).—*Alda Virginiana*, BRISS. III., p. 367, 12.—*Alouette de Siberie*, BUFF. *Pl. Enl.* 650, fig. 2.

are regularly seen during the whole winter. In the stomach of these I have found, in numerous instances, quantities of the eggs or larvæ of certain insects, mixed with a kind of sliny earth. About the middle of March they generally disappear, on their route to the north. Forster informs us, that they visit the environs of Albany Fort, in the beginning of May; but go farther north to breed; that they feed on grass seeds, and buds of the sprig birch, and run into small holes, keeping close to the ground; from whence the natives call them *chi-chup-pi-sue*.* This same species appears also to be found in Poland, Russia, and Siberia in winter, from whence they also retire farther north on the approach of spring; except in the north-east parts, and near the high mountains.†

The length of this bird is seven inches, the extent twelve inches; the forehead, throat, sides of the neck, and line over the eye is of a delicate straw or Naples yellow, elegantly relieved by a bar of black, that passes from the nostril to the eye, below which it falls, rounding, to the depth of three-quarters of an inch; the yellow on the forehead and over the eye is bounded, within, for its whole length, with black, which covers part of the crown; the breast is ornamented with a broad fan-shaped patch of black; this as well as all the other spots of black are marked with minute curves of yellow points; back of the neck, and towards the shoulders a light drab tinged with lake; lesser wing coverts bright cinnamon; greater wing coverts the same, interiorly dusky, and tipped with whitish; back and wings drab-colored, tinged with reddish, each feather of the former having a streak of dusky black down its centre; primaries deep dusky, tipped and edged with whitish; exterior feathers most so; secondaries broadly edged with light drab, and scolloped at the tips; tail forked, black; the two middle feathers, which by some have been mistaken for the coverts, are reddish drab, centred with brownish black; the two outer ones on each side exteriorly edged with white; breast of a dusky vinous tinge, and marked with spots or streaks of the same; the belly and vent white; sides streaked with bay; bill short (Latham, in mistake, says seven inches‡), of a dusky blue color; tongue truncate and bifid; legs and claws black; hind heel very long and almost straight; iris of the eye hazel. One glance at the figure on the plate will give a better idea than the whole of this minute description, which, however, has been rendered necessary by the errors of others. The female has little or no black on the crown; and the yellow on the front is narrow, and of a dirty tinge.

There is a singular appearance in this bird which I have never seen taken notice of by former writers, viz., certain long black feathers, which extend, by equal distances beyond each other, above the eye-

* Phil. Trans. vol. LXII. p. 398.

† Arct. Zool.

‡ Syn. vol. II., p. 385.

brow; these are longer, more pointed, and of a different texture from the rest around them; and the bird possesses the power of erecting them so as to appear as if horned, like some of the Owl tribe. Having kept one of these birds alive for some time I was much amused at this odd appearance; and think it might furnish a very suitable specific appellation, viz., *Alauda cornuta*, or Horned Lark. These horns become scarcely perceivable after the bird is dead. The head is slightly crested.

Shore Lark and Sky Lark are names by which this species is usually known in different parts of the Union. They are said to sing well; mounting in the air, in the manner of the Song Lark of Europe; but this is only in those countries where they breed. I have never heard of their nests being found within the territory of the United States.

SPECIES III. *ALAUDA RUFA*.*

BROWN LARK.

[Plate XLII. Fig. 4.]

Red Lark, EDW. 297.—*Arct. Zool.* No. 279.—LATHAM, II., 376.—*L'Alouette aux joues brunes de Pensylvanie*, BUFF. V., 58.

IN what particular district of the northern regions this bird breeds, I am unable to say. In Pennsylvania it first arrives from the north about the middle of October; flies in loose scattered flocks; is strongly

* This bird is common to Europe and America, and as many nominal species have been made of it we quote the following synonymes from Prince Musignano's observations in the Journal of the Academy of Natural Sciences of Philadelphia, vol. IV., p. 182-3.

Synonymes of the American specimens:—*Alauda rubra*, GMEL. LATH.—*Alauda ludoviciana*, GMEL. LATH.—*Alauda pensylvanica*, BRISS.—*Farlouzanne*, BUFF. Ois.—*Alouette aux joues brunes de Pensylvanie*, BUFF. Ois.—*Lark from Pennsylvania*, EDW. Glean. pl. 297.—*Red Lark*, PENN. Brit. and *Arct. Zool.* LATH. Syn.—*Louisiana Lark*, LATH. Syn.

Synonymes of the European specimens:—*Anthus aquaticus*, BECHST. MEYER. VIEILL. *Nouv. Dict.* TEMM.—*Alauda spinoletta*, LINN. (Ought not this specific name to be restored?)—*Alauda campestris* β . *spinoletta*, GMEL. LATH.—*Alauda obscura*, GMEL. LATH. (young). *Alauda petrosa*, MONTAGU, *Trans. Linn. Soc. Lond.* (young).—*Anthus rupestris*, NILSSON, *Orn. Succ.*—*Alouette pipi*. (by error) BUFF. *Pl. Enl.* 661, f. 2.—*Meadow Lark*, var. A. LATH. Syn.—*Dusky Lark*, LATH. Syn. (young).—*Anthus montanus*, KOCH. *Bayerische Zool.*—The latter nominal species, as Temminck observes, was formed of an adult male, as it appears during the few days of breeding, when they have a roseate tint on the neck, breast, upper part of the belly and flanks.

attached to flat, newly-ploughed fields, commons, and such like situations; has a feeble note characteristic of its tribe; runs rapidly along the ground; and when the flock takes to wing they fly high, and generally to a considerable distance before they alight. Many of them continue in the neighborhood of Philadelphia all winter, if the season be moderate. In the Southern States, particularly in the lower parts of North and South Carolina, I found these Larks in great abundance in the middle of February. Loose flocks of many hundreds were driving about from one corn field to another; and in the low rice grounds they were in great abundance. On opening numbers of these, they appeared to have been feeding on various small seeds with a large quantity of gravel. On the eighth of April I shot several of these birds in the neighborhood of Lexington, Kentucky. In Pennsylvania they generally disappear, on their way to the north, about the beginning of May, or earlier. At Portland, in the District of Maine, I met with a flock of these birds in October. I do not know that they breed within the United States. Of their song, nest, eggs, &c., we have no account.

The Brown Lark is six inches long, and ten inches and a half in extent; the upper parts brown olive touched with dusky; greater coverts and next superior row lighter; bill black, slender; nostril prominent; chin and line over the eye pale rufous; breast and belly brownish ochre, the former spotted with black; tertials black, the secondaries brown, edged with lighter; tail slightly forked, black; the two exterior feathers marked largely with white; legs dark purplish brown; hind heel long, and nearly straight; eye dark hazel. Male and female nearly alike. Mr. Pennant says that one of these birds was shot near London.

GENUS XLIII. SYLVIA. WARBLER.

SPECIES I. *S. SIALIS*.

BLUE-BIRD.

[Plate III. Fig. 3.]

Le Rouge gorge bleu, BUFFON, v., 212, *Pl. Enl.* 390.—*Blue-Warbler*, LATH. II., 446.
—CATESB. I., 47.—*Motacilla sialis*, LINN. *Syst.* 336.—BARTRAM, p 291.*

THE pleasing manners and sociable disposition of this little bird entitle him to particular notice. As one of the first messengers of spring, bringing the charming tidings to our very doors, he bears his own recommendation always along with him, and meets with a hearty welcome from everybody.

Though generally accounted a bird of passage, yet so early as the middle of February, if the weather be open, he usually makes his appearance about his old haunts, the barn, orchard and fenceposts. Storms and deep snows sometimes succeeding, he disappears for a time; but about the middle of March is again seen, accompanied by his mate, visiting the box in the garden, or the hole in the old apple-tree, the cradle of some generations of his ancestors. "When he first begins his amours," says a curious and correct observer, "it is pleasing to behold his courtship, his solicitude to please and to secure the favor of his beloved female. He uses the tenderest expressions, sits close by her, caresses and sings to her his most endearing warblings. When seated together, if he espies an insect delicious to her taste, he takes it up, flies with it to her, spreads his wing over her and puts it in her mouth."† If a rival makes his appearance (for they are ardent in their loves), he quits her in a moment, attacks and pursues the intruder, as he shifts from place to place, in tones that bespeak the jealousy of his affection, conducts him with many reproofs beyond the extremities of his territory, and returns to warble out his transports of triumph beside his beloved mate. The preliminaries being thus settled, and the spot fixed on, they begin to clean out the old nest, and the rubbish of

* *Motacilla sialis*, LINN. *Syst.* I., p. 187, Ed. 10.—GMEL. *Syst.* I., p. 989.—*Sylvia sialis*, LATH. *Ind. Orn.* II., 522.—VIEILLOT, *Ois. de l'Am. Sept.* pl. 101, male; 102, female; 103, young.—*La Gorge rouge de la Caroline*, BUFF. *Pl. Enl.* 396, fig. 1, male; fig. 2, female.

† Letter from Mr. William Bartram to the author.

the former year, and to prepare for the reception of their future offspring. Soon after this another sociable little pilgrim (*Motacilla domestica*, House Wren) also arrives from the south, and finding such a snug berth pre-occupied, shows his spite, by watching a convenient opportunity, and in the absence of the owner popping in and pulling out sticks; but takes special care to make off as fast as possible.

The female lays five, and sometimes six, eggs, of a pale blue color; and raises two, and sometimes three broods in a season; the male taking the youngest under his particular care while the female is again sitting. Their principal food are insects, particularly large beetles, and others of the coleopterous kinds that lurk among old dead and decaying trees. Spiders are also a favorite repast with them. In fall they occasionally regale themselves on the berries of the sour gum; and as winter approaches, on those of the red cedar, and on the fruit of a rough hairy vine that runs up and cleaves fast to the trunks of trees. Ripe persimmons are another of their favorite dishes; and many other fruits and seeds which I have found in their stomachs at that season, which, being no botanist, I am unable to particularize. They are frequently pestered with a species of tape-worm, some of which I have taken from their intestines of an extraordinary size, and in some cases in great numbers. Most other birds are also plagued with these vermin; but the Blue-bird seems more subject to them than any I know, except the Woodcock. An account of the different species of vermin, many of which I doubt not are nondescripts, that infest the plumage and intestines of our birds, would of itself form an interesting publication; but as this belongs more properly to the entomologist, I shall only, in the course of this work, take notice of some of the most remarkable; and occasionally represent them in the same plate with those birds on which they are usually found.

The usual spring and summer song of the Blue-bird is a soft, agreeable and oft-repeated warble, uttered with open quivering wings, and is extremely pleasing. In his motions and general character he has great resemblance to the Robin Red-breast of Britain; and had he the brown olive of that bird, instead of his own blue, could scarcely be distinguished from him. Like him he is known to almost every child; and shows as much confidence in man by associating with him in summer, as the other by his familiarity in winter. He is also of a mild and peaceful disposition, seldom fighting or quarrelling with other birds. His society is courted by the inhabitants of the country, and few farmers neglect to provide for him, in some suitable place, a snug little summer house, ready fitted and rent-free. For this he more than sufficiently repays them by the cheerfulness of his song, and the multitude of injurious insects which he daily destroys. Towards fall, that is in the month of October, his song changes to a single plaintive note, as

he passes over the yellow, many-colored woods; and its melancholy air recalls to our minds the approaching decay of the face of nature. Even after the trees are stripped of their leaves, he still lingers over his native fields, as if loth to leave them. About the middle or end of November few or none of them are seen; but with every return of mild and open weather we hear his plaintive note amidst the fields, or in the air, seeming to deplore the devastations of winter. Indeed he appears scarcely ever totally to forsake us; but to follow fair weather through all its journeyings till the return of spring.

Such are the mild and pleasing manners of the Blue-bird, and so universally is he esteemed, that I have often regretted that no pastoral muse has yet arisen in this western woody world, to do justice to his name, and endear him to us still more by the tenderness of verse, as has been done to his representative in Britain, the Robin Red-breast. A small acknowledgment of this kind I have to offer, which the reader I hope will excuse as a tribute to rural innocence.

When winter's cold tempests and snows are no more,
 Green meadows and brown furrowed fields re-appearing,
 The fishermen hauling their shad to the shore,
 And cloud-cleaving geese to the Lakes are a-steering;
 When first the lone butterfly flits on the wing;
 When red glow the maples, so fresh and so pleasing,
 O then comes the Blue-bird, the HERALD OF SPRING!
 And hails with his warblings the charms of the season.

Then loud piping frogs make the marshes to ring;
 Then warm glows the sunshine, and fine is the weather;
 The blue woodland flowers just beginning to spring,
 And, spicewood and sassafras budding together:
 O then to your gardens ye housewives repair!
 Your walks border up; sow and plant at your leisure;
 The Blue-bird will chant from his box such an air,
 That all your hard toils will seem truly a pleasure.

He flits through the orchard, he visits each tree,
 The red flowering peach and the apple's sweet blossoms;
 He snaps up *destroyers* wherever they be,
 And seizes the catiffs that lurk in their bosoms;
 He drags the vile *grub* from the corn he devours;
 The worms from their webs where they riot and welter;
 His song and his services freely are ours,
 And all that he asks is, in summer a shelter.

The ploughman is pleased when he gleans in his train,
 Now searching the furrows—now mounting to cheer him;
 The gardener delights in his sweet simple strain,
 And leans on his spade to survey and to hear him;

The slow lingering schoolboys forget they'll be chid,
 While gazing intent as he warbles before 'em
 In mantle of sky-blue, and bosom so red,
 That each little loiterer seems to adore him.

When all the gay scenes of the summer are o'er,
 And autumn slow enters so silent and fallow,
 And millions of warblers, that charmed us before,
 Have fled in the train of the sun-seeking swallow;
 The Blue-bird, forsaken, yet true to his home,
 Still lingers, and looks for a milder to-morrow,
 Till forced by the horrors of winter to roam,
 He sings his adieu in a lone note of sorrow.

While spring's lovely season, serene, dewy, warm,
 The green face of earth, and the pure blue of heaven,
 Or love's native music have influence to charm,
 Or sympathy's glow to our feelings is given,
 Still dear to each bosom the Blue-bird shall be;
 His voice, like the thrillings of hope, is a treasure;
 For, through bleakest storms if a calm he but see,
 He comes to remind us of sunshine and pleasure!

The Blue-bird, in summer and fall, is fond of frequenting open pasture fields; and there perching on the stalks of the great *mullein*, to look out for passing insects. A whole family of them are often seen, thus situated, as if receiving lessons of dexterity from their more expert parents, who can espy a beetle crawling among the grass, at a considerable distance; and after feeding on it, instantly resume their former position. But whoever informed Dr. Latham that "this bird is never seen on trees, though it makes its nest in the holes of them!"* might as well have said, that the Americans are never seen in the streets, though they build their houses by the sides of them. For what is there in the construction of the feet and claws of this bird to prevent it from perching? Or what sight more common to an inhabitant of this country than the Blue-bird perched on the top of a peach or apple-tree; or among the branches of those reverend broadarmed chestnut trees, that stand alone in the middle of our fields, bleached by the rains and blasts of ages?

The Blue-bird is six inches and three-quarters in length, the wings remarkably full and broad; the whole upper parts are of a rich sky blue, with purple reflections; the bill and legs are black; inside of the mouth and soles of the feet yellow, resembling the color of a ripe persimmon; the shafts of all the wing and tail feathers are black; throat, neck, breast, and sides partially under the wings, chestnut; wings dusky black at the tips; belly and vent white; sometimes the secondaries are

* Synopsis, v. 11., pp. 446-40.

exteriorly light brown, but the bird has in that case not arrived at his full color. The female is easily distinguished by the duller cast of the back, the plumage of which is skirted with light brown, and by the red on the breast being much fainter, and not descending near so low as in the male; the secondaries are also more dusky. This species is found over the whole United States; in the Bahama Islands where many of them winter; as also in Mexico, Brazil, and Guiana.

Mr. Edwards mentions that the specimen of this bird which he was favored with, was sent from the Bermudas; and as these islands abound with the cedar, it is highly probable that many of those birds pass from our continent thence, at the commencement of winter, to enjoy the mildness of that climate as well as their favorite food.

As the Blue-bird is so regularly seen in winter, after the continuance of a few days of mild and open weather, it has given rise to various conjectures as to the place of his retreat. Some supposing it to be in close sheltered thickets, lying to the sun; others the neighborhood of the sea, where the air is supposed to be more temperate, and where the matters thrown up by the waves furnish him with a constant and plentiful supply of food. Others trace him to the dark recesses of hollow trees, and subterraneous caverns, where they suppose he dozes away the winter, making, like Robinson Crusoe, occasional reconnoitering excursions from his castle, whenever the weather happens to be favorable. But amidst the snows and severities of winter I have sought for him in vain in the most favorable sheltered situations of the Middle States; and not only in the neighborhood of the sea, but on both sides of the mountains.* I have never, indeed, explored the depths of caverns in search of him, because I would as soon expect to meet with tulips and butterflies there, as Blue-birds, but among hundreds of woodmen, who have cut down trees of all sorts, and at all seasons, I have never heard one instance of these birds being found so immured in winter; while in the whole of the Middle and Eastern States, the same general observation seems to prevail that the Blue-bird always makes his appearance in winter after a few days of mild and open weather. On the other hand, I have myself found them numerous in the woods of North and South Carolina, in the depth of winter, and I have also been assured by different gentlemen of respectability, who have resided in the islands of Jamaica, Cuba, and the Bahamas and Bermudas, that this very bird is common there in winter. We also find, from the works of Hernandez Piso and others, that it is well known in Mexico, Guiana and Brazil; and if so, the place of its winter retreat is easily ascertained, without

* I speak of the species here *generally*. Solitary individuals are found, particularly among our cedar trees, sometimes in the very depth of winter.

having recourse to all the trumpery of holes and caverns, torpidity, hybernation, and such ridiculous improbabilities.

Nothing is more common in Pennsylvania than to see large flocks of these birds in spring and fall, passing, at considerable heights in the air, from the south in the former, and from the north in the latter season. I have seen, in the month of October, about an hour after sun-rise, ten or fifteen of them descend from a great height and settle on the top of a tall detached tree, appearing, from their silence and sedateness, to be strangers, and fatigued. After a pause of a few minutes they began to dress and arrange their plumage, and continued so employed for ten or fifteen minutes more; then, on a few warning notes being given, perhaps by the leader of the party, the whole remounted to a vast height, steering in a direct line for the south-west. In passing along the chain of the Bahamas towards the West Indies, no great difficulty can occur from the frequency of these islands; nor even to the Bermudas, which are said to be 600 miles from the nearest part of the continent. This may seem an extraordinary flight for so small a bird; but it is nevertheless a fact that it is performed. If we suppose the Blue-bird in this case to fly only at the rate of a mile per minute, which is less than I have actually ascertained him to do over land, ten or eleven hours would be sufficient to accomplish the journey; besides the chances he would have of resting places by the way, from the number of vessels that generally navigate those seas. In like manner two days at most, allowing for numerous stages for rest, would conduct him from the remotest regions of Mexico to any part of the Atlantic States. When the natural history of that part of the continent and its adjacent isles, are better known, and the periods at which its birds of passage arrive and depart, are truly ascertained, I have no doubt but these suppositions will be fully corroborated.

SPECIES II. *SYLVIA CALENDULA*.

RUBY-CROWNED WREN.

[Plate V. Fig. 3.]

Le Roitelet Rubis, BUFF. V., 373.—EDW. 254.—LATH. *Syn.* II., 511.—*Arct. Zool.* 320.—*Regulus cristatus alter vertice rubini coloris*, BARTRAM, p. 292.*

THIS little bird visits us early in the spring from the south, and is generally first found among the maple blossoms, about the beginning of April. These failing, it has recourse to those of the peach, apple and other fruit trees, partly for the tops of the sweet and slender stamina of the flowers, and partly for the winged insects that hover among them. In the middle of summer I have rarely met with these birds in Pennsylvania; and as they penetrate as far north as the country round Hudson's Bay, and also breed there, it accounts for their late arrival here in fall. They then associate with the different species of Titmouse, and the Golden-crested Wren; and are particularly numerous in the month of October and beginning of November in orchards, among the decaying leaves of the apple trees, that at that season are infested with great numbers of small, black, winged insects, among which they make great havoc. I have often regretted the painful necessity one is under of taking away the lives of such inoffensive useful little creatures, merely to obtain a more perfect knowledge of the species; for they appear so busy, so active and unsuspecting, as to continue searching about the same twig, even after their companions have been shot down beside them. They are more remarkably so in autumn; which may be owing to the great number of young and inexperienced birds which are then among them; and frequently at this season I have stood under the tree, motionless, to observe them, while they gleaned among the low branches, sometimes within a foot or two of my head. They are extremely adroit in catching their prey; have only at times a feeble chirp; visit the tops of the tallest trees as well as the lowest bushes; and continue generally for a considerable time among the branches of the same tree, darting about from place to place; appearing, when on the top of a high maple, no bigger than humble-bees.

* The following synonymes may be added:—*Motacilla calendula*, LINN. I., p. 337.—GMEI. *Syst.* I., p. 994.—*Sylvia calendula*, LATH. *Ind. Orn.* II., p. 549.—*Regulus rubineus*, VIEILLOT, *Ois. de l'Am. Sept.* pl. 104, male; 105, young, given as female.

The Ruby-crowned Wren is four inches long, and six in extent; the upper parts of the head, neck and back are of a fine greenish olive, with a considerable tinge of yellow; wings and tail dusky purplish brown, exteriorly edged with yellow olive; secondaries and first row of wing-coverts edged and tipped with white with a spot of deep purplish brown across the secondaries, just below their coverts; the hind head is ornamented with an oblong lateral spot of vermilion, usually almost hid by the other plumage; round the eye a ring of yellowish white; whole under parts of the same tint; legs dark brown; feet and claws yellow; bill slender, straight, not notched, furnished with a few black hairs at the base; inside of the mouth orange. The female differs very little in its plumage from the male, the colors being less lively, and the bird somewhat less. Notwithstanding my utmost endeavors, I have never been able to discover their nest; though, from the circumstance of having found them sometimes here in summer, I am persuaded that they occasionally breed in Pennsylvania; but I know several birds, no larger than this, that usually build on the extremities of the tallest trees in the woods; which I have discovered from their beginning before the leaves are out; many others, no doubt, choose similar situations; and should they delay building until the woods are thickened with leaves, it is no easy matter to discover them. In Fall they are so extremely fat as almost to dissolve between the fingers as you open them; owing to the great abundance of their favorite insects at that time.

SPECIES III. *SYLVIA MARILANDICA*.

MARYLAND YELLOW-THROAT.

[Plate VI. Fig 1, Male.]

Turdus Trichas, LINN. *Syst.* I., 293.—EDW. 237.—*Yellow-breasted Warbler*, *Arct. Zool.* II., No. 283. Id. 284.—*Le Figuier aux joues noires*, BUFF. V., 292.—*La Fauvette à poitrine jaune de la Louisiane*, BUFF. V., 162. *Pl. Enl.* 709, fig. 2.—LATH. *Syn.* IV., 433, 32.

THIS is one of the humble inhabitants of briars, brambles, alder bushes, and such shrubbery as grows most luxuriantly in low watery situations, and might with propriety be denominated *Humility*, its business or ambition seldom leading it higher than the tops of the underwood. Insects and their larvæ are its usual food. It dives into the deepest of the thicket, rambles among the roots, searches round the stems, examines both sides of the leaf, raising itself on its legs so as to peep into every crevice; amusing itself at times with a very simple, and not disagreeable, song or twitter, *whitititee*, *whitititee*, *whitititee*; pausing for half a minute or so, and then repeating its notes as before. It inhabits the whole United States from Maine to Florida, and also Louisiana; and is particularly numerous in the low swampy thickets of Maryland, Pennsylvania and New Jersey. It is by no means shy; but seems deliberate and unsuspicious, as if the places it frequented, or its own diminutiveness, were its sufficient security. It often visits the fields of growing rye, wheat, barley, &c., and no doubt performs the part of a friend to the farmer, in ridding the stalks of vermin, that might otherwise lay waste his fields. It seldom approaches the farmhouse, or city; but lives in obscurity and peace amidst its favorite thickets. It arrives in Pennsylvania about the middle, or last week, of April, and begins to build its nest about the middle of May: this is fixed on the ground, among the dried leaves, in the very depth of a thicket of briars, sometimes arched over, and a small hole left for entrance; the materials are dry leaves and fine grass, lined with coarse hair; the eggs are five, white, or semi-transparent, marked with specks of reddish brown. The young leave the nest about the twenty-second of June; and a second brood is often raised in the same season. Early in September they leave us, returning to the south.

This pretty little species is four inches and three quarters long, and six inches and a quarter in extent; back, wings and tail, green olive,

which also covers the upper part of the neck, but approaches to cinereous on the crown; the eyes are inserted in a band of black, which passes from the front, on both sides, reaching half way down the neck; this is bounded above by another band of white deepening into light blue; throat, breast, and vent brilliant yellow; belly a fainter tinge of the same color; inside coverts of the wings also yellow; tips and inner vanes of the wings dusky brown; tail cuneiform, dusky, edged with olive-green; bill black, straight, slender, of the true *Motacilla* form: though the bird itself was considered as a species of Thrush by Linnaeus, but very properly removed to the genus *Motacilla* by Gmelin; legs flesh colored; iris of the eye dark hazel. The female wants the black band through the eye, has the bill brown, and the throat of a much paler yellow. This last, I have good reason to suspect, has been described by Europeans as a separate species; and that from Louisiana, referred to in the synonymes, appears evidently the same as the former, the chief difference, according to Buffon, being in its wedged tail, which is likewise the true form of our own species; so that this error corrected will abridge the European nomenclature of two species. Many more examples of this kind will occur in the course of our descriptions.

SYLVIA MARYLANDICA.

MARYLAND YELLOW-THROAT.

[Plate XVIII. Fig. 4, Female.]

THE male of this species having been represented in Plate VI., fig. 1, accompanied by a particular detail of its manners, I have little farther to add here relative to this bird. I found several of them round Wilmington, North Carolina, in the month of January, along the margin of the river, and by the Cypress swamp, on the opposite side. The individual, from which the figure in the plate was taken, was the actual nurse of the young Cowpen Bunting, which it is represented in the act of feeding.

It is five inches long, and seven in extent; the whole upper parts green olive, something brownish on the neck, tips of the wings and head; the lower parts yellow, brightest on the throat and vent; legs flesh colored. The chief difference between this and the male in the markings of their plumage, is, that the female is destitute of the black bar through the eyes, and the bordering one of pale bluish white.

SPECIES IV. *SYLVIA REGULUS*.

GOLDEN-CRESTED WREN.

[Plate VIII. Fig. 2.]

Motacilla regulus, LINN. *Syst.* I., 338, 48.—LATH. *Syn.* IV., 508, 145.—EDW. 254.

THIS diminutive species is a frequent associate of the one last described, and seems to be almost a citizen of the world at large, having been found not only in North and South America, the West Indies and Europe, but even in Africa and India. The specimen from Europe, in Mr. Peale's collection, appears to be nothing specifically different from the American; and the very accurate description given of this bird by the Count de Buffon, agrees in every respect with ours. Here, as in Europe, it is a bird of passage, making its first appearance in Pennsylvania early in April, among the blossoms of the maple, often accompanied by the Ruby-crowned Wren, which, except in the markings of the head, it very much resembles. It is very frequent among evergreens, such as the pine, spruce, cedar, juniper, &c., and in the fall is generally found in company with the two species of Titmouse, Brown Creeper, and small Spotted Woodpecker. It is an active, unsuspicious, and diligent little creature, climbing and hanging, occasionally, among the branches, and sometimes even on the body of the tree, in search of the larvæ of insects, attached to the leaves and stems, and various kinds of small flies, which it frequently seizes on wing. As it retires still farther north to breed, it is seldom seen in Pennsylvania from May to October; but is then numerous in orchards, feeding among the leaves of the apple trees, which, at that season, are infested with vast numbers of small black winged insects. Its chirp is feeble, not much louder than that of a mouse; though where it breeds the male is said to have a variety of sprightly notes. It builds its nest frequently on the branches of an evergreen, covers it entirely round, leaving a small hole on one side for entrance, forming it outwardly of moss and lichens, and lining it warmly with down. The female lays six or eight eggs, pure white, with a few minute specks of dull red. Dr. Latham, on whose authority this is given, observes, "It seems to frequent the oak trees in preference to all others. I have more than once seen a brood of these in a large oak in the middle of a lawn, the whole little family of which, as soon as able, were in perpetual motion, and gave great pleasure to many who viewed them. The nest of one of these has also been made in a garden

on a fir tree; it was composed of moss, the opening on one side, in shape roundish; it was lined with a downy substance, fixed with small filaments. It is said to sing very melodiously, very like the Common Wren, but weaker.* In Pennsylvania they continue with us from October to December, and sometimes to January.

The Golden-crested Wren is four inches long, and six inches and a half in extent; back a fine yellow olive; hind head and sides of the neck inclining to ash; a line of white passes round the frontlet, extending over and beyond the eye on each side; above this another line or strip of deep black passes in the same manner, extending farther behind; between these two strips of black lies a bed of glossy golden yellow, which being parted a little, exposes another of a bright flame color, extending over the whole upper part of the head; when the little warbler flits among the branches in pursuit of insects, he opens and shuts this golden ornament with great adroitness, which produces a striking and elegant effect; lores marked with circular points of black; below the eye is a rounding spot of dull white; from the upper mandible to the bottom of the ear feathers runs a line of black, accompanied by another of white from the lower mandible; breast light cream color; sides under the wings and vent the same; wings dusky, edged exteriorly with yellow olive; greater wing coverts tipped with white, immediately below which a spot of black extends over several of the secondaries; tail pretty long, forked, dusky, exterior vanes broadly edged with yellow olive; legs brown, feet and claws yellow; bill black, slender, straight, evidently of the *Muscicapa* form, the upper mandible being notched at the point, and furnished at the base with bristles, that reach half way to its point; but what seems singular and peculiar to this little bird, the nostril on each side is covered by a single feather, that much resembles the antennæ of some butterflies, and is half the length of the bill. Buffon has taken notice of the same in the European. Inside of the mouth a reddish orange; claws extremely sharp, the hind one the longest. In the female the tints and markings are nearly the same, only the crown or crest is pale yellow. These birds are numerous in Pennsylvania in the month of October, frequenting bushes that overhang streams of water, alders, briars, and particularly apple trees, where they are eminently useful in destroying great numbers of insects, and are at that season extremely fat.

* Synopsis II., 509.

SPECIES V. *SYLVIA DOMESTICA*.*

HOUSE WREN.

[Plate VIII. Fig. 3.]

Motacilla domestica (*Regulus rufus*), BARTRAM, 291.

THIS well known and familiar bird arrives in Pennsylvania about the middle of April; and about the eighth or tenth of May, begins to build its nest, sometimes in the wooden cornice under the eaves, or in a hollow cherry tree; but most commonly in small boxes, fixed on the top of a pole, in or near the garden, to which he is extremely partial, for the great number of caterpillars and other larvæ with which it constantly supplies him. If all these conveniences are wanting, he will even put up with an old hat, nailed on the weather boards, with a small hole for entrance; and if even this be denied him, he will find some hole, corner or crevice about the house, barn or stable, rather than abandon the dwellings of man. In the month of June, a mower hung up his coat, under a shed, near a barn; two or three days elapsed before he had occasion to put it on again; thrusting his arm up the sleeve he found it completely filled with some rubbish, as he expressed it, and, on extracting the whole mass, found it to be the nest of a Wren completely finished, and lined with a large quantity of feathers. In his retreat he was followed by the little forlorn proprietors, who scolded him with great vehemence for thus ruining the whole economy of their household affairs. The twigs with which the outward parts of the nest are constructed are short and crooked that they may the better hook in with one another, and the hole or entrance is so much shut up to prevent the intrusion of snakes or cats, that it appears almost impossible the body of the bird could be admitted; within this is a layer of fine dried stalks of grass, and lastly feathers. The eggs are six or seven, and sometimes nine, of a red purplish flesh color, innumerable fine grains of that tint being thickly sprinkled over the whole egg. They generally raise two broods in a season; the first about the beginning of June, the second in July.

This little bird has a strong antipathy to cats; for having frequent occasion to glean among the currant bushes, and other shrubbery in the

* *Troglodytes ædon*, VIEILL. *Ois. de l'Am. Sept.* pl. 107.

garden, those lurking enemies of the feathered race often prove fatal to him. A box fitted up in the window of the room where I slept, was taken possession of by a pair of Wrens. Already the nest was built, and two eggs laid, when one day the window being open, as well as the room door, the female Wren venturing too far into the room to reconnoitre, was sprung upon by grimalkin, who had planted herself there for the purpose; and before relief could be given was destroyed. Curious to see how the survivor would demean himself, I watched him carefully for several days. At first he sung with great vivacity for an hour or so, but becoming uneasy, went off for half an hour; on his return he chanted again as before, went to the top of the house, stable, and weeping willow, that she might hear him; but seeing no appearance of her, he returned once more, visited the nest, ventured cautiously into the window, gazed about with suspicious looks, his voice sinking to a low melancholy note as he stretched his little neck about in every direction. Returning to the box he seemed for some minutes at a loss what to do, and soon after went off, as I thought, altogether, for I saw him no more that day. Towards the afternoon of the second day, he again made his appearance, accompanied with a new female, who seemed exceedingly timorous and shy; and who after great hesitation entered the box; at this moment the little widower, or bridegroom, seemed as if he would warble out his very life with ecstacy of joy. After remaining about half a minute in, they both flew off, but returned in a few minutes, and instantly began to carry out the eggs, feathers, and some of the sticks, supplying the place of the two latter with materials of the same sort; and ultimately succeeded in raising a brood of seven young, all of which escaped in safety.

The immense number of insects which this sociable little bird removes from the garden and fruit trees, ought to endear him to every cultivator, even if he had nothing else to recommend him; but his notes, loud, sprightly, tremulous, and repeated every few seconds with great animation, are extremely agreeable. In the heat of summer, families in the country often dine under the piazza, adjoining green canopies of mantling grape vines, gourds, &c., while overhead the trilling vivacity of the Wren, mingled with the warbling mimicry of the Mocking-bird, and the distant softened sounds of numerous other songsters that we shall hereafter introduce to the reader's acquaintance, form a soul-soothing and almost heavenly music, breathing peace, innocence and rural repose. The European, who judges of the song of this species by that of his own Wren (*M. troglodytes*), will do injustice to the former, as in strength of tone, and execution, it is far superior, as well as the bird is in size, figure and elegance of markings, to the European one. Its manners are also different; its sociability greater. It is no *underground* inhabitant; its nest is differently constructed, the number of its eggs fewer;

it is also migratory; and has the tail and bill much longer. Its food is insects and caterpillars, and while supplying the wants of its young, it destroys, on a moderate calculation, many hundreds a day, and greatly circumscribes the ravages of these vermin. It is a bold and insolent bird against those of the Titmouse or Woodpecker kind that venture to build within its jurisdiction; attacking them without hesitation, though twice its size, and generally forcing them to decamp. I have known him drive a pair of swallows from their newly formed nest, and take immediate possession of the premises, in which his female also laid her eggs and reared her young. Even the Blue-bird, who claims an equal, and sort of hereditary right to the box in the garden, when attacked by this little impertinent, soon relinquishes the contest, the mild placidness of his disposition not being a match for the fiery impetuosity of his little antagonist. With those of his own species, who settle and build near him, he has frequent squabbles; and when their respective females are sitting, each strains his whole powers of song to excel the other. When the young are hatched, the hurry and press of business leave no time for disputing, so true it is that idleness is the mother of mischief. These birds are not confined to the country; they are to be heard on the tops of the houses in the most central part of our cities, singing with great energy. Scarce a house or cottage in the country is without at least a pair of them, and sometimes two; but unless where there is a large garden, orchard, and numerous outhouses, it is not often the case that more than one pair reside near the same spot, owing to their party disputes and jealousies. It has been said by a friend to this little bird, that "the esculent vegetables of a whole garden may, perhaps, be preserved from the depredations of different species of insects, by *ten or fifteen pair* of these small birds,"* and probably they might, were the combination practicable; but such a congregation of Wrens, about one garden, is a phenomenon not to be expected but from a total change in the very nature and disposition of the species.

Having seen no accurate description of this bird in any European publication, I have confined my references to Mr. Bartram and Mr. Peale; but though Europeans are not ignorant of the existence of this bird, they have considered it, as usual, merely as a slight variation from the original stock (*M. troglodytes*), their own Wren; in which they are, as usual, mistaken; the length and bent form of the bill, its notes, migratory habits, long tail, and red eggs, are sufficient specific differences.

The House Wren inhabits the whole of the United States, in all of which it is migratory. It leaves Pennsylvania in September; I have sometimes, though rarely, seen it in the beginning of October. It is

* Barton's Fragments, Part 1., p. 22.

four inches and a half long, and five and three-quarters in extent; the whole upper parts of a deep brown, transversely crossed with black, except the head and neck, which is plain; throat, breast and cheeks light clay-color; belly and vent mottled with black, brown and white; tail long, cuneiform, crossed with black; legs and feet light clay-colored; bill black, long, slightly curved, sharp pointed, and resembling that of the genus *Certhia* considerably; the whole plumage below the surface is bluish ash; that on the rump having large round spots of white, not perceivable unless separated with the hand. The female differs very little in plumage from the male.

SPECIES VI. *SYLVIA TROGLODYTES*?*

WINTER WREN.

[Plate VIII. Fig. 6.]

Motacilla troglodytes? LINN.

THIS little stranger visits us from the north in the month of October, sometimes remaining with us all the winter, and is always observed early in spring on his route back to his breeding place. In size, color, song and manners he approaches nearer to the European Wren (*M. troglodytes*) than any other species we have. During his residence here, he frequents the projecting banks of creeks, old roots, decayed logs, small bushes and rushes near watery places; he even approaches the farm-house, rambles about the wood-pile, creeping among the interstices like a mouse. With tail erect, which is his constant habit, mounted on some projecting point or pinnacle, he sings with great animation. Even in the yards, gardens and outhouses of the city, he appears familiar, and quite at home. In short, he possesses almost all the habits of the European species. He is, however, migratory, which may be owing to the superior coldness of our continent. Never having met with the nest and eggs, I am unable to say how nearly they approximate to those of the former.

I can find no precise description of this bird, as an American species, in any European publication. Even some of our own naturalists seem to have confounded it with another very different bird, the *Marsh*

* Wilson appears to be correct in considering this species the same as the European. The following synonyms may be given: *Motacilla troglodytes*, LINN. *Syst. Ed. 10*, I., 188.—GMEL. *Syst. 1.*, 993.—*Sylvia troglodytes*, LATH. *Ind. Orn.* II., p. 547.—*Le Roitelet*, BUFF. *Pl. Enl.* 651, fig. 2.

Wren,* which arrives in Pennsylvania from the south in May, builds a globular or pitcher-shaped nest, which it suspends among the rushes and bushes by the river side, lays five or six eggs of a dark fawn color, and departs again in September. But the colors and markings of that bird are very unlike those of the Winter Wren, and its song altogether different. The circumstance of the one arriving from the north as the other returns to the south, and *vice versa*, with some general resemblance between the two, may have occasioned this mistake. They, however, not only breed in different regions, but belong to different genera, the Marsh Wren being decisively a species of *Certhia*, and the Winter Wren a true *Motacilla*. Indeed we have no less than five species of these birds in Pennsylvania, that by a superficial observer would be taken for one and the same; but between each of which, nature has drawn strong, discriminating and indelible lines of separation. These will be pointed out in their proper places.

If this bird, as some suppose, retires only to the upper regions of the country, and mountainous forests, to breed, as is the case with some others, it will account for his early and frequent residence along the Atlantic coast during the severest winters; though I rather suspect that he proceeds considerably to the northward; as the Snow-bird (*F. Hudsonia*), which arrives about the same time with the Winter Wren, does not even breed at Hudson's Bay; but passes that settlement in June, on his way to the northward; how much farther is unknown.

The length of the Winter Wren is three inches and a half, breadth five inches; the upper parts are of a general dark brown, crossed with transverse touches of black, except the upper parts of the head and neck, which are plain; the black spots on the back terminate in minute points of dull white; the first row of wing coverts is also marked with specks of white at the extremities of the black, and tipped minutely with black; the next row is tipped with points of white; the primaries are crossed with alternate rows of black and cream color; inner vanes of all the quills dusky, except the three secondaries next the body; tips of the wings dusky; throat, line over the eye, sides of the neck, ear-feathers and breast, dirty white, with minute transverse touches of a drab or clay color; sides under the wings speckled with dark brown, black, and dirty white; belly and vent thickly mottled with sooty black, deep brown, and pure white, in transverse touches; tail very short, consisting of twelve feathers, the exterior one, on each side, a quarter of an inch shorter, the rest lengthening gradually to the middle ones; legs and feet a light clay color, and pretty stout; but straight, slender, half an inch long, not notched at the point, of a dark brown or black above,

* See Professor Barton's observations on this subject, under the article *Motacilla troglodytes*? "Fragments," &c., p. 18, *Ib.* p. 12.

and whitish below; nostril oblong; eye light hazel. The female wants the points of white on the wing coverts. The food of this bird is derived from that great magazine of so many of the feathered race, *insects and their larvæ*, particularly such as inhabit watery places, roots of bushes, and piles of old timber.

It were much to be wished that the summer residence, nest and eggs, of this bird were precisely ascertained, which would enable us to determine whether it be, what I strongly suspect it is, the same species as the common domestic Wren of Britain.

SPECIES II. *SYLVIA FLAVICOLLIS*.

YELLOW-THROAT WARBLER.

[Plate XII. Fig. 6.]

Yellow-throat Warbler, *Arct. Zool.* p. 400, No. 286.—*CATESB. I.*, 62.—*LATH. II.*, 441.
—*La Mesange grise à gorge jaune*, *BUFF. V.*, 454.—*La gorge jaune de St. Domingue*,
Pl. Enl. 686, fig. 1.*

THE habits of this beautiful species, like those of the preceding, are not consistent with the shape and construction of its bill; the former would rank it with the Titmouse, or with the Creepers, the latter is decisively that of the Warbler. The first opportunity I had of examining a living specimen of this bird was in the southern parts of Georgia, in the month of February. Its notes which were pretty loud and spirited, very much resembled those of the Indigo-bird. It continued a considerable time on the same pine tree, creeping around the branches and among the twigs, in the manner of the Titmouse, uttering its song every three or four minutes. On flying to another tree it frequently alighted on the body, and ran nimbly up or down, spirally and perpendicularly, in search of insects. I had afterwards many opportunities of seeing others of the same species, and found them all to correspond in these particulars. This was about the 24th of February, and the first of their appearance there that spring, for they leave the United States about three months during winter, and consequently go to no great distance. I had been previously informed that they also pass the summer in Virginia and in the southern parts of Maryland; but they very rarely proceed as far north as Pennsylvania.

This species is five inches and a half in length, and eight and a half

* *Motacilla pensilis*, *Gmel. I.*, p. 960.—*Motacilla flavicollis*, *Gmel. Syst. I.*, 959.
—*Sylvia pensilis*, *LATH. Ind. Orn. II.*, p. 520.—*VIEILL. Ois. de l'Am. Sept.* pl. 72.

broad; the whole back, hind head and rump is a fine light slate color; the tail is somewhat forked, black, and edged with light slate; the wings are also black, the three shortest secondaries broadly edged with light blue; all the wing quills are slightly edged with the same; the first row of wing coverts are tipped and edged with white, the second wholly white, or nearly so; the frontlet, ear feathers, lores, and above the temple, are black; the line between the eye and nostril, whole throat and middle of the breast brilliant golden yellow; the lower eyelid, line over the eye, and spot behind the ear feathers, as well as the whole lower parts, are pure white; the yellow on the throat is bordered with touches of black, which also extend along the sides under the wings; the bill is black, and faithfully represented in the figure; the legs and feet yellowish brown; the claws extremely fine pointed; the tongue rather cartilaginous, and lacerated at the end. The female has the wings of a dingy brown, and the whole colors, particularly the yellow on the throat, much duller; the young birds of the first season are without the yellow.

SPECIES VIII. *SYLVIA CASTANEA*.

BAY-BREASTED WARBLER.

[Plate XIV. Fig. 4.]

Parus peregrinus, the little Chocolate-breasted Titmouse, BARTRAM, p. 292.

THIS very rare species passes through Pennsylvania about the beginning of May, and soon disappears. It has many of the habits of the Titmouse, and all their activity; hanging among the extremity of the twigs, and darting about from place to place, with restless diligence, in search of various kinds of the larvæ of insects. It is never seen here in summer, and very rarely on its return, owing, no doubt, to the greater abundance of foliage at that time, and to the silence and real scarcity of the species. Of its nest and eggs we are altogether uninformed.

The length of this bird is five inches, breadth eleven; throat, breast, and sides under the wings, pale chestnut or bay; forehead, cheeks, line over, and strip through the eye, black; crown deep chestnut; lower parts dull yellowish white; hind head and back streaked with black on a grayish buff ground; wings brownish black, crossed with two bars of white; tail forked, brownish black, edged with ash, the three exterior feathers marked with a spot of white on their inner edges; behind the eye is a broad oblong spot of yellowish white. The female has much less of

the bay color on the breast; the black on the forehead is also less and of a brownish tint. The legs and feet, in both, are dark ash, the claws extremely sharp for climbing and hanging; the bill is black; irides hazel.

The ornithologists of Europe take no notice of this species, and have probably never met with it. Indeed it is so seldom seen in this part of Pennsylvania that few even of our own writers have mentioned it.

I lately received a very neat drawing of this bird, done by a young lady in Middleton, Connecticut, where it seems also to be a rare species.

SPECIES IX. *SYLVIA PENNSYLVANICA*.

CHESTNUT-SIDED WARBLER.

[Plate XIV. Fig. 5.]

LINN. *Syst.* 333.—*Red-throated Flycatcher*, EDW 301.—*Bloody-side Warbler*, TURTON, *Syst.* I., p. 596.—*La figuier à poitrine rouge*, BUFF. V., 308.—BRISS. *App.* 105.—LATH. II., 490.—*Arct. Zool.* p. 405, No. 298.*

OF this bird I can give but little account. It is one of those transient visitors that pass through Pennsylvania in April and May, on their way farther north to breed. During its stay here, which seldom exceeds a week or ten days, it appears actively engaged among the opening buds and young leaves, in search of insects; has no song but a feeble chirp or twitter; and is not numerous. As it leaves us early in May, it probably breeds in Canada, or perhaps some parts of New England; though I have no certain knowledge of the fact. In a whole day's excursion it is rare to meet with more than one or two of these birds; though a thousand individuals of some species may be seen in the same time. Perhaps they may be more numerous on some other part of the continent.

The length of this species is five inches, the extent seven and three quarters. The front, line over the eye, and ear feathers are pure white, upper part of the head brilliant yellow; the lores, and space immediately below, are marked with a triangular patch of black; the back and hind head is streaked with gray, dusky, black and dull yellow; wings

* Additional synonymes:—*Motacilla icterocephala*, LINN. *Syst.* I., p. 325.—GMEL. *Syst.* I., p. 980.—*Sylvia icterocephala*, LATH. *Ind. Orn.* II., p. 538.—VIEIL. *Ois. de l'Am. Sept.* pl. 90.—*Sylvia Pennsylvanica*, GMEL. *Syst.* I., p. 971.—LATH. *Ind. Orn.* II., p. 540.—*Ficedula Canadensis icterocephalas*, BRISS. III., p. 517, 64, t. 27, f. 2.—Id. 8vo., I., p. 451.—*Ficedula Pennsylvanica icterocephalas*, BRISS. *App.* p. 105.—Id. 8vo., I., p. 458, 78.

black, primaries edged with pale blue, the first and second row of coverts broadly tipped with pale yellow, secondaries broadly edged with the same; tail black, handsomely forked, exteriorly edged with ash, the inner webs of the three exterior feathers with each a spot of white; from the extremity of the black at the lower mandible, on each side, a streak of deep reddish chestnut descends along the sides of the neck, and under the wings to the root of the tail; the rest of the lower parts are pure white; legs and feet ash; bill black; irides hazel. The female has the hind head much lighter, and the chestnut on the sides is considerably narrower and not of so deep a tint.

Turton and some other writers have bestowed on this little bird the singular epithet of *bloody-sided*, for which I was at a loss to know the reason, the color of that part being a plain chestnut; till on examining Mr. Edwards's colored figure of this bird in the public library of this city, I found its side tinged with a brilliant blood color. Hence, I suppose, originated the name.

SPECIES X. *SYLVIA PHILADELPHIA*.

MOURNING WARBLER.

[Plate XIV. Fig. 6.]

I HAVE now the honor of introducing to the notice of naturalists and others, a very modest and neat little species, which has hitherto eluded their research. I must also add, with regret, that it is the only one of its kind I have yet met with. The bird from which the figure in the plate was taken was shot in the early part of June, on the border of a marsh, within a few miles of Philadelphia. It was flitting from one low bush to another, very busy in search of insects; and had a sprightly and pleasant warbling song, the novelty of which first attracted my attention. I have traversed the same and many such places, every spring and summer since, in expectation of again meeting with some individual of the species, but without success. I have, however, the satisfaction to say, that the drawing was done with the greatest attention to peculiarity of form, markings and tint of plumage; and the figure on the plate is a good resemblance of the original. I have yet hopes of meeting, in some of my excursions, with the female; and should I be so fortunate, shall represent her in some future volume of the present work, with such further remarks on their manners, &c., as I may then be enabled to make.

There are two species mentioned by Turton to which the present has

some resemblance, viz., *Motacilla mitrata*, or Mitred Warbler, and *M. cucullata*, or Hooded Warbler, both birds of the United States, or more properly a single bird; for they are the same species twice described, namely, the Hooded Warbler. The difference, however, between that and the present is so striking, as to determine this at once to be a very distinct species. The singular appearance of the head, neck and breast, suggested the name.

The Mourning Warbler is five inches long, and seven in extent; the whole back, wings and tail, are of a deep greenish olive, the tips of the wings and the centre of the tail feathers excepted, which are brownish; the whole head is of a dull slate color; the breast is ornamented with a singular crescent of alternate transverse lines of pure glossy white, and very deep black; all the rest of the lower parts are of a brilliant yellow; the tail is rounded at the end; legs and feet a pale flesh color; bill deep brownish black above, lighter below; eye hazel.

SPECIES XI. *SYLVIA SOLITARIA*.

BLUE-WINGED YELLOW WARBLER.

[Plate XV. Fig. 4.]

Parus aureus alis caeruleis, BARTRAM, p. 292.—EDW. pl. 277, upper figure.—
Pine Warbler, *Arct. Zool.* p. 412, No. 318.

THIS bird has been mistaken for the *Pine Creeper* of Catesby. It is a very different species. It comes to us early in May from the south; haunts thickets and shrubberies, searching the branches for insects; is fond of visiting gardens, orchards and willow trees; of gleaning among blossoms, and currant bushes; and is frequently found in very sequestered woods, where it generally builds its nest. This is fixed in a thick bunch or tussock of long grass, sometimes sheltered by a briar bush. It is built in the form of an inverted cone, or funnel, the bottom thickly bedded with dry beech leaves, the sides formed of the dry bark of strong weeds, lined within with fine dry grass. These materials are not placed in the usual manner *circularly*, but shelving downwards on all sides from the top; the mouth being wide, the bottom very narrow, filled with leaves, and the eggs or young occupying the middle. The female lays five eggs, pure white, with a few very faint dots of reddish near the great end; the young appear the first week in June. I am not certain whether they raise a second brood in the same season.

I have met with several of these nests, always in a retired though open part of the woods, and very similar to each other.

The first specimen of this bird taken notice of by European writers was transmitted, with many others, by Mr. William Bartram to Mr. Edwards, by whom it was drawn and etched in the 277th plate of his Ornithology. In his remarks on this bird he seems at a loss to determine whether it is not the Pine Creeper of Catesby;* a difficulty occasioned by the very imperfect coloring and figure of Catesby's bird. The Pine Creeper, however, is a much larger bird, is of a dark yellow olive above, and orange yellow below; has all the habits of a Creeper, alighting on the trunks of the pine trees, running nimbly round them, and, according to Mr. Abbot, builds a pensile nest. I observed thousands of them in the pine woods of Carolina and Georgia, where they are resident, but have never met with them in any part of Pennsylvania.

This species is five inches and a half long, and seven and a half broad; hind head and whole back a rich green olive; crown and front orange yellow; whole lower parts yellow, except the vent feathers, which are white; bill black above, lighter below: lores black; the form of the bill approximates a little to that of the Finch; wings and tail deep brown, broadly edged with pale slate, which makes them appear wholly of that tint, except at the tips; first and second row of coverts tipped with white, slightly stained with yellow; the three exterior tail feathers have their inner vanes nearly all white; legs pale bluish; feet dirty yellow; the two middle tail feathers are pale slate. The female differs very little in color from the male.

This species very much resembles the Prothonotary Warbler of Pennant and Buffon; the only difference I can perceive on comparing specimens of each, is that the yellow of the Prothonotary is more of an orange tint, and the bird somewhat larger.

* Catesby, Car. vol. i., pl. 61.

SPECIES XII. *SYLVIA CHRYSOPTERA*.
GOLDEN-WINGED WARBLER.

[Plate XV. Fig. 5.]

EDW. 299.—*Le figuier aux ailes dorées*, BUFF. V., 311.—LATH. II., 492.—*Arct. Zool.* 403, No. 295. Ib. No. 296.—*Motacilla chrysoptera*, TURT. *Syst.* I., 597.—*Motacilla flavifrons*, *Yellow-fronted Warbler*, ID. 601.—*Parus alis aureis*, BARTRAM, p. 292.*

THIS is another spring passenger through the United States to the north. This bird, as well as fig. 4, from the particular form of its bill, ought rather to be separated from the Warblers; or, along with several others of the same kind, might be arranged as a sub-genus, or particular family of that tribe, which might with propriety be called *Worm-eaters*, the *Motacilla vermivora* of Turton having the bill exactly of this form. The habits of these birds partake a good deal of those of the Titmouse; and in their language and action they very much resemble them. All that can be said of this species is, that it appears in Pennsylvania for a few days, about the last of April or beginning of May, darting actively among the young leaves and opening buds, and is rather a scarce species.

The Golden-winged Warbler is five inches long, and seven broad; the crown golden yellow; the first and second row of wing coverts of the same rich yellow; the rest of the upper parts a deep ash, or dark slate color; tail slightly forked, and, as well as the wings, edged with whitish; a black band passes through the eye, and is separated from the yellow of the crown by a fine line of white; chin and throat black, between which and that passing through the eye runs a strip of white, as in the figure; belly and vent white; bill black, gradually tapering to a sharp point; legs dark ash; irides hazel.

Pennant has described this species twice, first as the Golden-winged Warbler, and immediately after as the Yellow-fronted Warbler. See the synonymes at the beginning of this article.

* *Motacilla chrysoptera*, LINN. *Syst.* I., p. 333.—GMEL. *Syst.* I., p. 971.—*Motacilla flavifrons*, GMEL. *Syst.* I., p. 976.—*Sylvia chrysoptera*, LATH. *Ind. Orn.* II., p. 541.—VIEILL. *Ois. de l'Am. Sept.* pl. 97.—*Sylvia flavifrons*, LATH. *Ind. Orn.* II., p. 527.

SPECIES XIII. *SYLVIA CITRINELLA*.

BLUE-EYED YELLOW WARBLER.

[Plate XV. Fig. 5.]

Yellow-poll Warbler, LATH. *Syn.* II., p. 515, No. 148.—*Arct. Zool.* p. 402, No 292.—*Le Figuier tacheté*, BUFF. *Ois.* v., p. 285.—*Motacilla æstiva*, TURTON'S *Syst* p. 615.—*Parus luteus*, *Summer Yellow-bird*, BARTRAM, p. 292.*

THIS is a very common summer species, and appears almost always actively employed among the leaves and blossoms of the willows, snow-ball shrub, and poplars, searching after small green caterpillars, which are its principal food. It has a few shrill notes, uttered with emphasis, but not deserving the name of song. It arrives in Pennsylvania about the beginning of May; and departs again for the south about the middle of September. According to Latham it is numerous in Guiana, and is also found in Canada. It is a very sprightly, unsuspicious and familiar little bird; is often seen in and about gardens, among the blossoms of fruit trees and shrubberies; and, on account of its color, is very noticeable. Its nest is built with great neatness, generally in the triangular fork of a small shrub, near, or among, briar bushes. Outwardly it is composed of flax or tow, in thick circular layers, strongly twisted round the twigs that rise through its sides, and lined within with hair and the soft downy substance from the stalks of fern. The eggs are four, or five, of a dull white, thickly sprinkled near the great end with specks of pale brown. They raise two broods in the season. This little bird, like many others, will feign lameness to draw you away from its nest, stretching out his neck, spreading and bending down his tail until it trails along the branch, and fluttering feebly along to draw you after him; sometimes looking back to see if you are following him, and returning back to repeat the same manœuvres in order to attract your attention. The male is most remarkable for this practice.

* Additional synonyms:—*Motacilla æstiva*, GMEL. *Syst.* I., p. 996.—*Sylvia æstiva*, LATH. *Ind. Orn.* II., p. 551.—VIEILL. *Ois. de l'Am. Sept.* pl. 95.—*Motacilla albicollis*, GMEL. *Syst.* I., p. 983, young.—*Sylvia albicollis*, LATH. *Ind. Orn.* II., p. 535, young.—*Ficedula Canadensis*, BRISS. III., p. 492, 51, t. 26, fig. 3, male adult.—*Ficedula dominicensis*, BRISS. III., p. 494, 52, t. 26, f. 5.—*Figuier de Canada*, BUFF. *Pl. Enl.* 58, f. 2, adult male.

The Blue-eyed Warbler is five inches long and seven broad; hind head and back greenish yellow; crown, front and whole lower parts rich golden yellow; breast and sides streaked laterally with dark red; wings and tail deep brown, except the edges of the former and the *inner* vanes of the latter, which are yellow; the tail is also slightly forked; legs a pale clay color; bill and eyelids light blue. The female is of a less brilliant yellow, and the streaks of red on the breast are fewer and more obscure. Buffon is mistaken in supposing No. 1, of Pl. Enl. Plate lviii., to be the female of this species.

SPECIES XIV. *SYLVIA CANADENSIS*.

BLACK-THROATED BLUE WARBLER.

[Plate XV. Fig. 7.]

Motacilla Canadensis, LINN. *Syst.* 336.—*Le figuier bleu*, BUFF. v., 304. *Pl. Enl.* 685, fig. 2.—LATH. *Syn.* II., p. 487, No. 113.—EDW. 252.—*Arct. Zool.* p. 399, No. 285.*

I KNOW little of this bird. It is one of those transient visitors that in the month of April pass through Pennsylvania on its way to the north to breed. It has much of the Flycatcher in its manners, though the form of its bill is decisively that of the Warbler. These birds are occasionally seen for about a week or ten days, viz., from the twenty-fifth of April to the end of the first week in May. I sought for them in the Southern States, in winter, but in vain. It is highly probable that they breed in Canada; but the summer residents among the feathered race, on that part of the continent, are little known, or attended to. The habits of the bear, the deer and beaver, are much more interesting to those people, and for a good substantial reason too, because more *lucrative*; and unless there should arrive an order from England for a cargo of skins of Warblers and Flycatchers, sufficient to make them an object worth speculation, we are likely to know as little of them hereafter as at present.

This species is five inches long, and seven and a half broad, and is wholly of a fine light slate color above; the throat, cheeks, front and upper part of the breast is black; wings and tail dusky black, the primaries marked with a spot of white immediately below their coverts; tail edged with blue; belly and vent white; legs and feet dirty yellow; bill black, and beset with bristles at the base. The female is

* *Sylvia caerulea*, VIEILL. *Ois. de l'Am. Sept.* pl. 80.

more of a dusky ash on the breast; and in some specimens nearly white.

They no doubt pass this way on their return in autumn, for I have myself shot several in that season; but as the woods are then still thick with leaves, they are much more difficult to be seen; and make a shorter stay than they do in spring.

SPECIES XV. *SYLVIA VIRENS*.

BLACK-THROATED GREEN WARBLER.

[Plate XVII. Fig. 3.]

Motacilla virens, GMEL. *Syst.* I., p. 985.—*Le figuier à cravate noire*, BUFF. V., p. 298.—*Black-throated Green Flycatcher*, EDW. t. 300.—*Green Warbler*, *Arct. Zool.* II., No. 297.—LATH. *Syn.* IV., p. 484, 108.—TURTON, *Syst.* p. 607.—*Parus viridis gutture nigro*, the *Green Black-throated Flycatcher*, BARTRAM, p. 292.*

THIS is one of those transient visitors that pass through Pennsylvania, in the latter part of April and beginning of May, on their way to the north to breed. It generally frequents the high branches and tops of trees, in the woods, in search of the larvæ of insects that prey on the opening buds. It has a few singular chirruping notes; and is very lively and active. About the tenth of May it disappears. It is rarely observed on its return in the fall, which may probably be owing to the scarcity of its proper food at that season obliging it to pass with greater haste; or to the foliage, which prevents it and other passengers from being so easily observed. Some few of these birds, however, remain all summer in Pennsylvania, having myself shot three this season, in the month of June; but I have never yet seen their nest.

This species is four inches and three quarters long, and seven broad; the whole back, crown and hind head is of a rich yellowish green; front, cheeks, sides of the breast, and line over the eye, yellow; chin and throat black; sides under the wings spotted with black; belly and vent white; wings dusky black, marked with two white bars; bill black; legs and feet brownish yellow; tail dusky edged with light ash; the three exterior feathers spotted on their inner webs with white. The female is distinguished by having no black on the throat.

* *Sylvia virens*, VIEILL. *Ois. de l'Am. Sept.* pl. 80.

SPECIES XVI. SYLVIA CORONATA.

YELLOW-RUMP WARBLER.

[Plate XVII. Fig. 4.]

Motacilla maculosa,* GMEL. *Syst.* I., p. 984.—*Motacilla coronata*, LINN. *Syst.* I., p. 332, No. 31.—*Le figuier à tête cendrée*,* BUFF. V., p. 291.—*Le Figuier couronné d'or*, Id. V., p. 312.—*Yellow-rump Flycatcher*,* EDW. t. 255.—*Golden-crowned Flycatcher*, Id. t. 298.—*Yellow-rump Warbler*,* ARCT. Zool. II., No. 288.—*Golden-crowned Warbler*, Id. II., No. 294.—LATH. *Syn.* IV., p. 481, No. 104. Id. *Supp.* p. 182. Id. *Syn.* IV. p. 486, No. 11.—TURTON, p. 599. Id. 606.—*Parus cedrus uropygio flavo*, the *Yellow Rump*, BARTRAM, p. 292.—*Parus aurio vertice*, the *Golden-crown Flycatcher*, Id. 292.†

In this beautiful little species we have another instance of the mistakes occasioned by the change of color to which many of our birds are subject. In the present case this change is both progressive and periodical. The young birds of the first season are of a brown olive above, which continues until the month of February and March; about which time it gradually changes into a fine slate color, as in the figure on the plate. About the middle of April this change is completed. I have shot them in all their gradations of change. While in their

* These synonyms are incorrect, they should, according to Prince Musignano, be quoted under *Sylvia magnolia*, see species 19.

† As many nominal species have been made of this bird, we shall quote the following additional synonyms from Prince Musignano's *Obs.*—*Motacilla coronata*, LINN. GMEL. adult in summer dress.—*Motacilla canadensis*, sp. 27, LINN. adult in summer dress, unnatural by a band on the breast.—*Motacilla umbria*, GMEL. autumnal.—*Motacilla cincta*, GMEL. adult in summer dress, with the above-mentioned band.—*Motacilla pinguis*, GMEL. autumnal.—*Sylvia coronata*, LATH. adult in summer dress. VIEILL. pl. 78, adult male in summer plumage, pl. 79, young.—*Sylvia umbria*, LATH. autumnal.—*Sylvia cincta*, LATH. adult in summer dress, deviating from nature by having the band on the breast; an error which probably originated in Brisson's figure.—*Sylvia pinguis*, LATH. autumnal.—*Ficedula pensylvanica cinerea nœvia*, BRISS. adult in summer plumage.—*Ficedula canadensis cinerea*, BRISS. with the false band.—*Fauvette tachetée de la Louisiane*, BUFF. Pl. Enl. 709, fig. 1, autumnal.—*Figuier du Mississippi*, BUFF. Pl. Enl. 731, f. 2, young autumnal; erroneously quoted by GMELIN and LATHAM under *S. icterocephala*.—*Parus cedrus uropygio flavo*, BARTRAM, autumnal.—*Parus aureo vertice*, BARTRAM, summer dress.—*Parus virginianus*, LINN. GMEL. LATH. BRISS. autumnal.—*Sylvia flavopygia*, VIEILL. autumnal.—*Sylvia xanthorhoa*, VIEILL. *Nouv. Dict.* autumnal.

brown olive dress, the yellow on the sides of the breast and crown is scarcely observable, unless the feathers be parted with the hand ; but that on the rump is still vivid ; the spots of black on the cheek are then also obscured. The difference of appearance, however, is so great, that we need scarcely wonder that foreigners, who have no opportunity of examining the progress of these variations, should have concluded them to be two distinct species ; and designated them as in the above synonymes.

This bird is also a passenger through Pennsylvania. Early in October he arrives from the north, in his olive dress, and frequents the cedar trees, devouring the berries with great avidity. He remains with us three or four weeks, and is very numerous wherever there are trees of the red cedar covered with berries. He leaves us for the south, and spends the winter season among the myrtle swamps of Virginia, the Carolinas and Georgia. The berries of the *Myrica cerifera*, both the large and dwarf kind, are his particular favorites. On those of the latter I found him feeding, in great numbers, near the sea shore, in the district of Maine, in October ; and through the whole of the lower parts of the Carolinas, wherever the myrtles grew, these birds were numerous, skipping about with hanging wings, among the bushes. In those parts of the country they are generally known by the name of Myrtle-birds. Round Savannah, and beyond it as far as the Alatomaha, I found him equally numerous, as late as the middle of March, when his change of color had considerably progressed to the slate hue. Mr. Abbot, who is well acquainted with this change, assured me, that they attain this rich slate color fully before their departure from thence, which is about the last of March, and to the tenth of April. About the middle or twentieth of the same month they appear in Pennsylvania, in full dress, as represented in the plate ; and after continuing to be seen, for a week or ten days, skipping among the high branches and tops of the trees, after those larvæ that feed on the opening buds, they disappear until the next October. Whether they retire to the north, or to the high ranges of our mountains to breed, like many other of our passengers, is yet uncertain. They are a very numerous species, and always associate together in considerable numbers, both in spring, winter and fall.

This species is five inches and a half long, and eight inches broad ; whole back, tail coverts, and hind head, a fine slate color, streaked with black ; crown, sides of the breast, and rump, rich yellow ; wings and tail black, the former crossed with two bars of white, the three exterior feathers of the latter spotted with white ; cheeks and front black ; chin, line over and under the eye, white ; breast light slate, streaked with black extending under the wings ; belly and vent white, the latter spotted with black ; bill and legs black. This is the spring and summer dress of the male ; that of the female of the same seasons differs but

little, chiefly in the colors being less vivid and not so strongly marked with a tincture of brownish on the back.

In the month of October the slate color has changed to a brownish olive, the streaks of black are also considerably brown; and the white is stained with the same color; the tail coverts, however, still retain their slaty hue, the yellow on the crown, and sides of the breast becomes nearly obliterated. Their only note is a kind of *chip*, occasionally repeated. Their motions are quick, and one can scarcely ever observe them at rest.

Though the form of the bill of this bird obliges me to arrange him with the Warblers, yet in his food and all his motions he is decisively a Flycatcher.

On again recurring to the descriptions in Pennant of the "Yellow-rump Warbler,"* "Golden-crowned W.,"† and "Belted W.,"‡ I am persuaded that the whole three have been drawn from the present species.

SYLVIA CORONATA.

YELLOW RUMP.

[Plate XLV. Fig. 3.]

EDWARDS, 255.—*Arct. Zool.* II., p. 400, No. 288.

In plate 17, fig. 4, this bird is represented in his perfect colors; the present figure exhibits him in his winter dress, as he arrives to us from the north early in September; the former shows him in his spring and summer dress, as he visits us from the south about the twentieth of March. These birds remain with us in Pennsylvania from September until the season becomes severely cold, feeding on the berries of the red cedar; and as December's snows come on they retreat to the lower countries of the Southern States, where in February I found them in great numbers among the myrtles, feeding on the berries of that shrub; from which circumstance they are usually called in that quarter Myrtle-birds. Their breeding place I suspect to be in in our northern districts, among the swamps and evergreens so abundant there, having myself shot them in the Great Pine swamp about the middle of May.

They range along our whole Atlantic coast in winter, seeming particularly fond of the red cedar and the myrtle; and I have found them numerous, in October, on the low islands along the coast of New Jersey

* *Arct. Zool.* p. 400, No. 188.

† *Ib.* No. 294.

‡ *Ib.* No. 306.

in the same pursuit. They also dart after flies wherever they can see them, generally skipping about with the wings loose.

Length five inches and a quarter, extent eight inches; upper parts and sides of the neck a dark mouse brown, obscurely streaked on the back with dusky black; lower parts pale dull yellowish white; breast marked with faint streaks of brown; chin and vent white; rump vivid yellow; at each side of the breast, and also on the crown, a spot of fainter yellow; this last not observable without separating the plumage; bill, legs and wings black; lesser coverts tipped with brownish white; tail coverts slate; the three exterior tail feathers marked on their inner vanes with white; a touch of the same on the upper and lower eyelid. Male and female at this season nearly alike. They begin to change about the middle of February, and in four or five weeks are in their slate colored dress, as represented in the figure referred to.

SPECIES XVII. *SYLVIA CÆRULEA*.

CERULEAN WARBLER.

[Plate XVII. Fig. 5.]

THIS delicate little species is now, for the first time, introduced to public notice. Except my friend Mr. Peale, I know of no other naturalist who seems to have hitherto known of its existence. At what time it arrives from the south I cannot positively say, as I never met with it in spring; but have several times found it during summer. On the borders of streams and marshes, among the branches of the poplar, it is sometimes to be found. It has many of the habits of the Flycatcher; though, like the preceding, from the formation of its bill we must arrange it with the Warblers. It is one of our scarce birds in Pennsylvania; and its nest has hitherto eluded my search. I have never observed it after the twentieth of August, and therefore suppose it retires early to the south.

This bird is four inches and a half long, and seven and a half broad; the front and upper part of the head is of a fine verditer blue; the hind head and back of the same color, but not quite so brilliant; a few lateral streaks of black mark the upper part of the back; wings and tail black, edged with sky blue; the three secondaries next the body edged with white, and the first and second row of coverts also tipped with white; tail coverts large, black, and broadly tipped with blue; lesser wing coverts black, also broadly tipped with blue, so as to appear nearly wholly of that tint; sides of the breast spotted or streaked with blue;

belly, chin and throat pure white; the tail is forked, the five lateral feathers on each side with each a spot of white, the two middle more slightly marked with the same; from the eye backwards extends a line of dusky blue; before and behind the eye a line of white; bill dusky above, light blue below; legs and feet light blue.

SPECIES XVIII. *SYLVIA PINUS*.

PINE-CREEPING WARBLER.

[Plate XIX. Fig. 4.]

Pine-Creeper, CATESB. I., 61.

THIS species inhabits the pine woods of the Southern States, where it is resident, and where I first observed it, running along the bark of the pines; sometimes alighting and feeding on the ground, and almost always when disturbed flying up and clinging to the trunks of the trees. As I advanced towards the south it became more numerous. Its note is a simple reiterated *chirrup*, continued for four or five seconds.

Catesby first figured and described this bird; but so imperfectly as to produce among succeeding writers great confusion, and many mistakes as to what particular bird was intended. Edwards has supposed it to be the Blue-winged Yellow Warbler; Latham has supposed another species to be meant; and the worthy Mr. Pennant has been led into the same mistakes; describing the male of one species, and the female of another, as the male and female Pine-Creeper. Having shot and examined great numbers of these birds I am enabled to clear up these difficulties by the following descriptions, which will be found to be correct.

The Pine-creeping Warbler is five and a half inches long, and nine inches in extent; the whole upper parts are of a rich green olive, with a considerable tinge of yellow; throat, sides and breast yellow; wings and tail brown with a slight cast of bluish, the former marked with two bars of white, slightly tinged with yellow; tail forked, and edged with ash; the three exterior feathers marked near the tip with a broad spot of white; middle of the belly and vent feathers white. The female is brown, tinged with olive green on the back; breast dirty white, or slightly yellowish. The bill in both is truly that of a Warbler; and the tongue slender as in the *Motacilla* genus, notwithstanding the habits of the bird.

The food of these birds is the seeds of the pitch pine, and various

kinds of bugs. The nest, according to Mr. Abbot, is suspended from the horizontal fork of a branch, and formed outwardly of slips of grape-vine bark, rotten wood, and caterpillars' webs, with sometimes pieces of hornets' nests interwoven; and is lined with dry pine leaves, and fine roots of plants. The eggs are four, white, with a few dark brown spots at the great end.

These birds, associating in flocks of twenty or thirty individuals, are found in the depth of the pine Barrens; and are easily known by their manner of rising from the ground and alighting on the *body* of the tree. They also often glean among the topmost boughs of the pine trees, hanging, head downwards, like the titmouse.

SPECIES XIX. *SYLVIA MAGNOLIA*.*

BLACK AND YELLOW WARBLER.

[Plate XXIII. Fig. 2, Male.]

THIS bird I first met with on the banks of the Little Miami, near its junction with the Ohio. I afterwards found it among the magnolias, not far from Fort Adams on the Mississippi. These two, both of which happened to be males, are all the individuals I have ever shot of this species; from which I am justified in concluding it to be a very scarce bird in the United States. Mr. Peale, however, has the merit of having been the first to discover this elegant species, which he informs me he found several years ago not many miles from Philadelphia. No notice has ever been taken of this bird by any European naturalist whose works I have examined. Its notes, or rather chirpings, struck me as very peculiar and characteristic; but have no claim to the title of song. It kept constantly among the higher branches, and was very active and restless.

Length five inches, extent seven inches and a half; front, lores, and behind the ear, black; over the eye a fine line of white, and another small touch of the same immediately under; back nearly all black; shoulders thinly streaked with olive; rump yellow; tail coverts jet black; inner vanes of the lateral tail feathers white to within half an inch of the tip where they are black; two middle ones wholly black:

* *Motacilla maculosa*, GMEL. *Syst.* I., p. 984.—*Sylvia maculosa*, LATH. *Ind. Orn.* II., p. 536.—VIEILLOT, *Ois. de l'Am. Sept.* pl. 93.—*Ficedula pensylvanica nœvia*, BRISS. III., p. 502, 56.—*Le Figuier à tête cendrée*, BUFF. v., p. 291.—*Yellow-rumped Fly-catcher*, EDW. *Glean.* pl. 255.—*Yellow-rumped Warbler*, PENN. *Arct. Zool.* II., 288.—LATH. *Syn.* IV., p. 481, 104.

whole lower parts rich yellow, spotted from the throat downwards with black streaks; vent white; tail slightly forked; wings black, crossed with two broad transverse bars of white; crown fine ash; legs brown; bill black. Markings of the female not known.

SPECIES XX. *SYLVIA BLACKBURNIA*.

BLACKBURNIAN WARBLER.

[Plate XXIII. Fig. 3.]

LATHAM II., p. 461, No. 67.*

THIS is another scarce species in Pennsylvania, making its appearance here about the beginning of May; and again in September on its return, but is seldom seen here during the middle of summer. It is an active silent bird. Inhabits also the state of New York, from whence it was first sent to Europe. Latham has numbered this as a variety of the *Yellow-fronted Warbler*, a very different species. The specimen sent to Europe, and first described by Pennant, appears also to have been a female, as the breast is said to be *yellow*, instead of the brilliant orange with which it is ornamented. Of the nest and habits of this bird I can give no account, as there is not more than one or two of these birds to be found here in a season, even with the most diligent search.

The Blackburnian Warbler is four inches and a half long, and seven in extent; crown black, divided by a line of orange; the black again bounded on the outside by a stripe of rich orange passing over the eye; under the eye a small touch of orange yellow; whole throat and breast rich fiery orange, bounded by spots and streaks of black; belly dull yellow, also streaked with black; vent white; back black, skirted with ash; wings the same, marked with a large lateral spot of white; tail slightly forked; the interior vanes of the three exterior feathers white; cheeks black; bill and legs brown. The female is yellow where the male is orange; the black streaks are also more obscure and less numerous.

* *Motacilla Blackburniae*, GMEI. *Syst.* I., p. 977.—*Sylvia Blackburniae*, LATH. *Ind. Orn.* II., p. 527.—VIEILL. *Ois. de l'Am. Sept.* pl. 96.

SPECIES XXI. *SYLVIA AUTUMNALIS*.

AUTUMNAL WARBLER.

[Plate XXIII. Fig. 4.]

THIS plain little species regularly visits Pennsylvania from the north in the month of October, gleaning among the willow leaves; but what is singular, is rarely seen in spring. From the first to the fifteenth of October, they may be seen in considerable numbers almost every day in gardens, particularly among the branches of the weeping willow, and seem exceedingly industrious. They have some resemblance in color to the Pine-creeping Warbler; but do not run along the trunk like that bird; neither do they give a preference to the pines. They are also less. After the first of November they are no longer to be found, unless the season be uncommonly mild. These birds doubtless pass through Pennsylvania in spring, on their way to the north; but either make a very hasty journey, or frequent the tops of the tallest trees; for I have never yet met with one of them in that season; though in October I have seen more than a hundred in an afternoon's excursion.

Length four inches and three quarters, breadth eight inches; whole upper parts olive green, streaked on the back with dusky stripes; tail coverts ash, tipped with olive; tail black, edged with dull white; the three exterior feathers marked near the tip with white; wings deep dusky, edged with olive, and crossed with two bars of white; primaries also tipped, and three secondaries next the body edged, with white; upper mandible dusky brown; lower, as well as the chin and breast, dull yellow; belly and vent white; legs dusky brown; feet and claws yellow; a pale yellow ring surrounds the eye. The males of these birds often warble out some low, but very sweet notes, while searching among the leaves in autumn.

SPECIES XXII. *SYLVIA PROTHONOTARIUS*.

PROTHONOTARY WARBLER.

[Plate XXIV. Fig. 3.]

Arct. Zool. p. 410.—BUFFON, v., 316.—LATHAM, II., 494. *Pl. Enl.* 704.

THIS is an inhabitant of the same country as the Painted Bunting; and also a passenger from the south; with this difference, that the bird now before us seldom approaches the house or garden; but keeps among the retired deep and dark swampy woods, through which it flits nimbly in search of small caterpillars; uttering every now and then a few screeking notes, scarcely worthy of notice. They are abundant in the Mississippi and New Orleans territories, near the river; but are rarely found on the high ridges inland.

From the peculiar form of its bill, being roundish and remarkably pointed, this bird might with propriety be classed as a sub-genus, or separate family, including several others, viz., the Blue-winged Yellow Warbler, the Golden-crowned Warbler, the Golden-winged Warbler, the Worm-eating Warbler, and a few more. The bills of all these correspond nearly in form and pointedness, being generally longer, thicker at the base, and more round than those of the genus *Sylvia*, generally. The first mentioned species, in particular, greatly resembles this in its general appearance; but the bill of the Prothonotary is rather stouter, and the yellow much deeper, extending farther on the back; its manners and the country it inhabits are also different.

This species is five inches and a half long, and eight and a half in extent; the head, neck, and whole lower parts (except the vent) are of a remarkably rich and brilliant yellow, slightly inclining to orange; vent white; back, scapulars and lesser wing coverts yellow olive; wings, rump and tail coverts a lead blue; interior vanes of the former black; tail nearly *even*, and black, broadly edged with blue, all the feathers, except the two middle ones, are marked on their inner vanes near the tip with a spot of white; bill long, stout, sharp pointed and wholly black; eyes dark hazel; legs and feet a leaden gray. The female differs in having the yellow and blue rather of a duller tint; the inferiority, however, is scarcely noticeable.

SPECIES XXIII. *SYLVIA VERMIVORA*.

WORM-EATING WARBLER.

[Plate XXIV. Fig. 4.]

Arct. Zool. p. 406, No. 300.—EDWARDS, 305.—LATHAM, II., 499.—*Le Demi-fin mangeur de vers*, BUFFON, v., 325.

THIS is one of the nimblest species of its whole family, inhabiting the same country with the preceding; but extending its migrations much farther north. It arrives in Pennsylvania about the middle of May; and leaves us in September. I have never yet met with its nest; but have seen them feeding their young about the twenty-fifth of June. This bird is remarkably fond of spiders, darting about wherever there is a probability of finding these insects. If there be a branch broken and the leaves withered, it shoots among them in preference to every other part of the tree, making a great rustling in search of its prey. I have often watched its manœuvres while thus engaged and flying from tree to tree in search of such places. On dissection I have uniformly found their stomachs filled with spiders or caterpillars, or both. Its note is a feeble chirp, rarely uttered.

The Worm-eater is five inches and a quarter in length, and eight inches in extent; back, tail, and wings a fine clear olive; tips and inner vanes of the wing quills a dusky brown; tail slightly forked, yet the exterior feathers are somewhat shorter than the middle ones; head and whole lower parts a dirty buff; the former marked with four streaks of black, one passing from each nostril, broadening as it descends the hind head; and one from the posterior angle of each eye; the bill is stout, straight, pretty thick at the base, roundish and tapering to a fine point; no bristles at the side of the mouth; tongue thin, and lacerated at the tip; the breast is most strongly tinged with the orange buff; vent waved with dusky olive; bill blackish above, flesh colored below; legs and feet a pale clay color; eye dark hazel. The female differs very little in color from the male.

On this species Mr. Pennant makes the following remarks:—"Does not appear in Pennsylvania till July in its passage northward. Does not return the same way; but is supposed to go beyond the mountains which lie to the west. This seems to be the case with all the transient vernal visitants of Pennsylvania."* That a small bird should permit

* *Arct. Zool.* p. 406.

the whole spring and half of the summer to pass away before it thought of "passing to the north to breed," is a circumstance one should think would have excited the suspicion of so discerning a naturalist as the author of Arctic Zoology, as to its truth. I do not know that this bird breeds to the northward of the United States. As to their returning home by "the country beyond the mountains," this must doubtless be for the purpose of finishing the education of their striplings here, as is done in Europe, by making the *grand tour*. This by the by would be a much more convenient retrograde route for the *ducks* and *geese*; as, like the Kentuckians, they could take advantage of the current of the Ohio and Mississippi, to float down to the southward. Unfortunately, however, for this pretty theory, all our vernal visitants with which I am acquainted, are contented to plod home by the same regions through which they advanced; not even excepting the geese.

SPECIES XXIV. *SYLVIA PEREGRINA*.

TENNESSEE WARBLER.

[Plate XXV. Fig. 2.]

THIS plain little bird has hitherto remained unknown. I first found it on the banks of Cumberland river, in the state of Tennessee, and supposed it to be a rare species, having since met with only two individuals of the same species. It was hunting nimbly among the young leaves, and like all the rest of the family of Worm-eaters, to which by its bill it evidently belongs, seemed to partake a good deal of the habits of the Titmouse. Its notes were few and weak; and its stomach on dissection contained small green caterpillars, and a few winged insects.

As this species is so very rare in the United States, it is most probably a native of a more southerly climate, where it may be equally numerous with any of the rest of its genus. The small Cerulean Warbler (Plate XVII., fig. 5), which in Pennsylvania, and almost all over the Atlantic States, is extremely rare, I found the most numerous of its tribe in Tennessee and West Florida; and the Carolina Wren (Plate XII., fig. 5), which is also scarce to the northward of Maryland, is abundant through the whole extent of country from Pittsburgh to New Orleans.

Particular species of birds, like different nations of men, have their congenial climes and favorite countries; but wanderers are common to both; some in search of better fare; some of adventures; others led by curiosity; and many driven by storms and accident.

The Tennessee Warbler is four inches and three quarters long, and eight inches in extent; the back, rump and tail coverts, are of a rich yellow olive; lesser wings coverts the same; wings deep dusky, edged broadly with yellow olive; tail forked, olive, relieved with dusky; cheeks and upper part of the head inclining to light bluish, and tinged with olive; line from the nostrils over the eye pale yellow, fading into white; throat and breast pale cream color; belly and vent white; legs purplish brown; bill pointed and thicker at the base than those of the *Sylvia* genus generally are; upper mandible dark dusky, lower somewhat paler; eye hazel.

The female differs little, in the color of her plumage, from the male; the yellow line over the eye is more obscure, and the olive not of so rich a tint.

SPECIES XXV. . *SYLVIA FORMOSA*.

KENTUCKY WARBLER.

[Plate XXV. Fig. 3.]

THIS new and beautiful species inhabits the country whose name it bears. It is also found generally in all the intermediate tracts between Nashville and New Orleans, and below that as far as the Balize, or mouths of the Mississippi, where I heard it several times, twittering among the high rank grass and low bushes of those solitary and desolate looking morasses. In Kentucky and Tennessee it is particularly numerous, frequenting low damp woods, and builds its nest in the middle of a thick tuft of rank grass, sometimes in the fork of a low bush, and sometimes on the ground; in all of which situations I have found it. The materials are loose dry grass, mixed with the light pith of weeds, and lined with hair. The female lays four, and sometimes six eggs, pure white, sprinkled with specks of reddish. I observed her sitting early in May. This species is seldom seen among the high branches; but loves to frequent low bushes and cane swamps, and is an active sprightly bird. Its notes are loud, and in threes, resembling *tweedle, tweedle, tweedle*. It appears in Kentucky from the south about the middle of April; and leaves the territory of New Orleans on the approach of cold weather; at least I was assured that it does not remain there during the winter. It appeared to me to be a restless, fighting species; almost always engaged in pursuing some of its fellows; though this might have been occasioned by its numbers, and the particular season of spring, when love and jealousy rage with violence in the breasts of the feathered

tenants of the grove; who experience all the ardency of those passions no less than their lord and sovereign man.

The Kentucky Warbler is five inches and a half long, and eight inches in extent; the upper parts are an olive green; line over the eye and partly under it, and whole lower parts, rich brilliant yellow; head slightly crested, the crown deep black, towards the hind part spotted with light ash; lores, and spot curving down the neck, also black; tail nearly *even* at the end, and of a rich olive green; interior vanes of that and the wings dusky; legs an almost transparent pale flesh color.

The female wants the black under the eye, and the greater part of that on the crown, having those parts yellowish. This bird is very abundant in the moist woods along the Tennessee and Cumberland rivers.

SPECIES XXVI. *SYLVIA MINUTA*.

PRAIRIE WARBLER.

[Plate XXV. Fig. 4.]

THIS pretty little species I first discovered in that singular tract of country in Kentucky, commonly called the Barrens. I shot several afterwards in the open woods of the Choctaw nation, where they were more numerous. They seem to prefer these open plains, and thinly wooded tracts; and have this singularity in their manners, that they are not easily alarmed; and search among the leaves the most leisurely of any of the tribe I have yet met with; seeming to examine every blade of grass, and every leaf; uttering at short intervals a feeble *chirr*. I have observed one of these birds to sit on the lower branch of a tree for half an hour at a time, and allow me to come up nearly to the foot of the tree, without seeming to be in the least disturbed, or to discontinue the regularity of its occasional note. In activity it is the reverse of the preceding species; and is rather a scarce bird in the countries where I found it. Its food consists principally of small caterpillars and winged insects.

The Prairie Warbler is four inches and a half long, and six inches and a half in extent; the upper parts are olive, spotted on the back with reddish chestnut; from the nostril over and under the eye, yellow; lores black; a broad streak of black also passes beneath the yellow under the eye; small pointed spots of black reach from a little below that along the side of the neck and under the wings; throat, breast and belly rich yellow; vent cream colored, tinged with yellow;

wings dark dusky olive; primaries and greater coverts edged and tipped with pale yellow; second row of coverts wholly yellow; lesser, olive; tail deep brownish black, lighter on the edges, the three exterior feathers broadly spotted with white.

The female is destitute of the black mark under the eye; has a few slight touches of blackish along the sides of the neck; and some faint shades of brownish red on the back.

The nest of this species is of very neat and delicate workmanship, being pensile, and generally hung on the fork of a low bush or thicket; it is formed outwardly of green moss, intermixed with rotten bits of wood and caterpillars' silk; the inside is lined with extremely fine fibres of grape-vine bark; and the whole would scarcely weigh a quarter of an ounce. The eggs are white, with a few brown spots at the great end. These birds are migratory, departing for the south in October.

SPECIES XXVII. *SYLVIA RARA*.

BLUE-GREEN WARBLER.

[Plate XXVII. Fig. 2.]

THIS new species, the only one of its sort I have yet met with, was shot on the banks of Cumberland river, about the beginning of April; and the drawing made with care immediately after. Whether male or female I am uncertain. It is one of those birds that usually glean among the high branches of the tallest trees, which render it difficult to be procured. It was darting about with great nimbleness among the leaves, and appeared to have many of the habits of the Flycatcher. After several ineffectual excursions in search of another of the same kind, with which I might compare the present, I am obliged to introduce it with this brief account.

The specimen has been deposited in Mr. Peale's museum.

The Blue-green Warbler is four inches and a half long, and seven and a half in extent; the upper parts are verditer, tinged with pale green, brightest on the front and forehead; lores, line over the eye, throat, and whole lower parts very pale cream; cheeks slightly tinged with greenish; bill and legs bright light blue, except the upper mandible, which is dusky; tail forked, and, as well as the wings brownish black; the former marked on the three exterior vanes with white and edged with greenish; the latter having the first and second row of coverts tipped with white. Note a feeble chirp.

SPECIES XXVIII. *SYLVIA RUBRICAPILLA*.

NASHVILLE WARBLER.

[Plate XXVII. Fig. 3.]

THE very uncommon notes of this little bird were familiar to me for several days before I succeeded in obtaining it. These notes very much resembled the breaking of small dry twigs, or the striking of small pebbles of different sizes smartly against each other for six or seven times, and loud enough to be heard at the distance of thirty or forty yards. It was some time before I could ascertain whether the sound proceeded from a bird or an insect. At length I discovered the bird; and was not a little gratified at finding it an entirely new and hitherto undescribed species. I was also fortunate enough to meet afterwards with two others exactly corresponding with the first, all of them being males. These were shot in the state of Tennessee, not far from Nashville. It had all the agility and active habits of its family the Worm-eaters.

The length of this species is four inches and a half, breadth seven inches; the upper parts of the head and neck light ash, a little inclining to olive; crown spotted with deep chestnut in small touches; a pale yellowish ring round the eye; whole lower parts vivid yellow, except the middle of the belly, which is white; back yellow olive, slightly skirted with ash; rump and tail coverts rich yellow olive; wings nearly black, broadly edged with olive; tail slightly forked and very dark olive; legs ash; feet dirty yellow; bill tapering to a fine point, and dusky ash; no white on wings or tail; eye hazel.

SPECIES XXIX. *SYLVIA PUSILLA*.

BLUE YELLOW-BACK WARBLER.

[Plate XXVIII. Fig. 3.]

Parus Americanus, LINN. *Syst.* 341.—*Finch Creeper*, CATESB. I., 64.—LATHAM, II., 558.—*Creeping Titmouse*, ARCT. Zool. 423, No. 326.—*Parus varius*, *Various-colored little Finch Creeper*, BARTRAM, p. 292.*

NOTWITHSTANDING the respectability of the above authorities, I must continue to consider this bird as a species of Warbler. Its habits indeed partake something of the Titmouse; but the form of its bill is decisively that of the *Sylvia* genus. It is remarkable for frequenting the tops of the tallest trees, where it feeds on the small winged insects and caterpillars that infest the young leaves and blossoms. It has a few feeble chirruping notes, scarcely loud enough to be heard at the foot of the tree. It visits Pennsylvania from the south, early in May; is very abundant in the woods of Kentucky; and is also found in the northern parts of the state of New York. Its nest I have never yet met with.

This little species is four inches and a half long, and six inches and a half in breadth; the front, and between the bill and eyes, is black; the upper part of the head and neck a fine Prussian blue; upper part of the back brownish yellow, lower and rump pale blue; wings and tail black, the former crossed with two bars of white, and edged with blue; the latter marked on the inner webs of the three exterior feathers with white, a circumstance common to a great number of the genus; immediately above and below the eye is a small touch of white; the upper mandible is black, the lower, as well as the whole throat and breast, rich yellow, deepening about its middle to orange red, and marked on the throat with a small crescent of black; on the edge of the breast is a slight touch of rufous; belly and vent white; legs dark brown; feet dirty yellow. The female wants both the black and orange on the throat and breast; the blue on the upper parts is also of a duller tint.

* *Parus Americanus*, LINN. *Syst. Ed.* 10, I., p. 190.—GMEL. *Syst.* I., p. 1007.—LATH. *Ind. Orn.* II., p. 571.—*Motacilla americana*, GMEL. *Syst.* I., 960.—*Sylvia americana*, *Ind. Orn.* II., p. 520.—*Motacilla ludoviciana*, GMEL. *Syst.* I., p. 983.—*Sylvia ludoviciana*, LATH. *Ind. Orn.* II., p. 535.—*Figuier cendré de la Caroline*, BUFF. *Pl. Enl.* 731, f. 1.—*Sylvia torquata*, VIEILL. *Ois. de l'Am. Sept.* pl. 99.

SPECIES XXX. *SYLVIA PETECHIA*.

YELLOW RED-POLL WARBLER.

[Plate XXVIII. Fig. 4.]

Red-headed Warbler, TURTON, I., 605.*

THIS delicate little bird arrives in Pennsylvania early in April, while the maples are yet in blossom, among the branches of which it may generally be found feeding on the stamina of the flowers, and on small winged insects. Low swampy thickets are its favorite places of resort. It is not numerous, and its notes are undeserving the name of song. It remains with us all summer; but its nest has hitherto escaped me. It leaves us late in September. Some of them probably winter in Georgia, having myself shot several late in February, on the borders of the Savannah river.

Length of the yellow Red-poll five inches, extent eight; line over the eye, and whole lower parts, rich yellow; breast streaked with dull red; upper part of the head reddish chestnut, which it loses in winter; back yellow olive, streaked with dusky; rump and tail coverts greenish yellow; wings deep blackish brown, exteriorly edged with olive; tail slightly forked, and of the same color as the wings.

The female wants the red cap; and the yellow of the lower parts is less brilliant; the streaks of red on the breast are also fewer and less distinct.

* *Motacilla petechia*, LINN. *Syst.* I., p. 334.—GMEL. *Syst.* I., p. 983.—*Sylvia petechia*, LATH. *Ind. Orn.* II., p. 535.—VIEILL. *Ois. de l'Am. Sept.* pl. 91.—*Ficedula Pennsylvanica erythrocephalos*, BRISS. III., p. 488, 49.—*Figuier à tête rouge de Pennsylvanie*, BUFF. *Ois.* v., p. 286.—*Red-headed Warbler*, PENN. *Arct. Zool.* II., No. 289.—LATH. *Syn.* IV., p. 479, 39.

SPECIES XXXI. *SYLVIA STRIATA*.

BLACK-POLL WARBLER.

[Plate XXX. Fig. 3, Male.]

LATH. II., p. 460.—*Arct. Zool.* p. 401, No. 290.—TURTON, 600.*

THIS species has considerable affinity to the Flycatchers in its habits. It is chiefly confined to the woods, and even there, to the tops of the tallest trees, where it is described skipping from branch to branch in pursuit of winged insects. Its note is a single *screeep*, scarcely audible from below. It arrives in Pennsylvania about the twentieth of April, and is first seen on the tops of the highest maples, darting about among the blossoms. As the woods thicken with leaves it may be found pretty generally, being none of the least numerous of our summer birds. It is, however, most partial to woods in the immediate neighborhood of creeks, swamps, or morasses, probably from the greater number of its favorite insects frequenting such places. It is also pretty generally diffused over the United States, having myself met with it in most quarters of the Union; though its nest has hitherto defied all my researches.

This bird may be considered as occupying an intermediate station between the Flycatchers and the Warblers; having the manners of the former, and the bill, partially, of the latter. The nice gradations by which nature passes from one species to another, even in this department of the great chain of beings, will for ever baffle all the artificial rules and systems of man. And this truth every fresh discovery must impress more forcibly on the mind of the observing naturalist. These birds leave us early in September.

The Black-poll Warbler is five and a half inches long, and eight and a half in extent; crown and hind head black; cheeks pure white; from each lower mandible runs a streak of small black spots, those on the side larger; the rest of the lower parts white; primaries black, edged with yellow; rest of the wing black, edged with ash; the first and second row of coverts broadly tipped with white; back ash, tinged with yellow ochre, and streaked laterally with black; tail black, edged

* *Motacilla striata*, GMEL. *Syst.* I., p. 976.—*Sylvia striata*, LATH. *Ind. Orn.* II., p. 527.

with ash, the three exterior feathers marked on the inner webs with white; bill black above, whitish below, furnished with bristles at the base; iris hazel; legs and feet reddish yellow.

The female differs very little in plumage from the male.

SYLVIA STRIATA.

BLACK-POLL WARBLER.

[Plate LIV. Fig. 4, Female.]

THIS bird was shot in the same excursion with the Cape May Warbler (*Sylvia maritima*), and its history as far as it is known, will be detailed in the history of that species. See page 209. Of its nest and eggs I am ignorant. It doubtless breeds both here and in New Jersey, having myself found it in both places during the summer. From its habit of keeping on the highest branches of trees it probably builds in such situations, and its nest may long remain unknown to us.

Pennant, who describes this species, says that it inhabits during summer Newfoundland and New York, and is called in the last *Sailor*. This name, for which however no reason is given, must be very local, as the bird itself is one of those silent, shy and solitary individuals that seek the deep retreats of the forest, and are known to few or none but the naturalist.

Length of the female Black-cap five inches and a quarter, extent eight and a quarter; bill brownish black; crown yellow olive streaked with black; back the same, mixed with some pale slate; wings dusky brown, edged with olive; first and second wing coverts tipped with white; tertials edged with yellowish white; tail coverts pale gray; tail dusky, forked, the two exterior feathers marked on their inner vanes with a spot of white; round the eye is a whitish ring; cheeks and sides of the breast tinged with yellow, and slightly spotted with black; chin white, as are also the belly and vent; legs and feet dirty orange.

The young bird of the first season, and the female, as is usually the case, are very much alike in plumage. On their arrival early in April, the black feathers on the crown are frequently seen coming out, intermixed with the former ash-colored ones.

This species has all the agility and many of the habits of the Fly-catcher.

SPECIES XXXII. *SYLVIA AGILIS*.

CONNECTICUT WARBLER.

[Plate XXXIX. Fig. 4.]

THIS is a new species, first discovered in the state of Connecticut, and twice since met with in the neighborhood of Philadelphia. As to its notes or nest, I am altogether unacquainted with them. The different specimens I have shot corresponded very nearly in their markings; two of these were males, and the other undetermined, but conjectured also to be a male. It was found in every case among low thickets, but seemed more than commonly active, not remaining for a moment in the same position. In some of my future rambles I may learn more of this solitary species.

Length five inches and three quarters, extent eight inches; whole upper parts a rich yellow olive; wings dusky brown, edged with olive; throat dirty white, or pale ash; upper part of the breast dull greenish yellow; rest of the lower parts a pure rich yellow; legs long, slender, and of a pale flesh color; round the eye a narrow ring of yellowish white; upper mandible pale brown, lower whitish; eye dark hazel.

Since writing the above I have shot two specimens of a bird which in every particular agrees with the above, except in having the throat of a dull buff color instead of pale ash; both of these were females, and I have little doubt but they are of the same species with the present, as their peculiar activity seemed exactly similar to the males above described.

These birds do not breed in the lower parts of Pennsylvania, though they probably may be found in summer in the alpine swamps and northern regions, in company with a numerous class of the same tribe that breed in these unfrequented solitudes.

SPECIES XXXIII. *SYLVIA LEUCOPTERA*.*

PINE-SWAMP WARBLER.

[Plate XLIII. Fig. 4.]

THIS little bird is for the first time figured or described. Its favorite haunts are in the deepest and gloomiest pine and hemlock swamps of our mountainous regions, where every tree, trunk, and fallen log is covered with a luxuriant coat of moss, that even mantles over the surface of the ground, and prevents the sportsman from avoiding a thousand holes, springs and swamps, into which he is incessantly plunged. Of the nest of this bird I am unable to speak. I found it associated with the Blackburnian Warbler, the Golden-crested Wren, Ruby-crowned Wren, Yellow Rump, and others of that description, in such places as I have described, about the middle of May. It seemed as active in fly-catching as in searching for other insects, darting nimbly about among the branches, and flirting its wings; but I could not perceive that it had either note or song. I shot three, one male and two females. I have no doubt that they breed in those solitary swamps, as well as many other of their associates.

The Pine-swamp Warbler is four inches and a quarter long, and seven inches and a quarter in extent; bill black, not notched, but furnished with bristles; upper parts a deep green olive, with slight bluish reflections, particularly on the edges of the tail and on the head; wings dusky, but so broadly edged with olive green as to appear wholly of that tint; immediately below the primary coverts there is a single triangular spot of yellowish white; no other part of the wing is white; the three exterior tail feathers with a spot of white on their inner vanes; the tail is slightly forked; from the nostrils over the eye extends a fine line of white, and the lower eyelid is touched with the same tint; lores blackish; sides of the neck and auriculars green olive; whole lower parts pale yellow ochre, with a tinge of greenish, duskiest on the throat; legs long and flesh colored.

The plumage of the female differs in nothing from that of the male.

* Wilson first called this bird *pusilla*, but that name being preoccupied, he changed it in the index to *leucoptera*; this latter name is also preoccupied, and Prince Musignano has proposed that it should be called *S. sphagnosa*.

SPECIES XXXIV. *SYLVIA MONTANA*.*

BLUE-MOUNTAIN WARBLER.

[Plate XLIV. Fig. 2, Male.]

THIS new species was first discovered near that celebrated ridge, or range of mountains, with whose name I have honored it. Several of these solitary Warblers remain yet to be gleaned up from the airy heights of our alpine scenery, as well as from the recesses of our swamps and morasses, whither it is my design to pursue them by every opportunity. Some of these I believe rarely or never visit the lower cultivated parts of the country; but seen only at home among the glooms and silence of those dreary solitudes. The present species seems of that family, or subdivision of the Warblers, that approach the Flycatcher, darting after flies wherever they see them, and also searching with great activity among the leaves. Its song was a feeble screech, three or four times repeated.

This species is four inches and three-quarters in length; the upper parts a rich yellow olive; front, cheeks and chin yellow, also the sides of the neck; breast and belly pale yellow, streaked with black or dusky; vent plain pale yellow; wings black, first and second row of coverts broadly tipped with pale yellowish white; tertials the same; the rest of the quills edged with whitish; tail black, handsomely rounded, edged with pale olive; the two exterior feathers, on each side, white on the inner vanes from the middle to the tips, and edged on the outer side with white; bill dark brown; legs and feet purple brown; soles yellow; eye dark hazel.

This was a male. The female I have never seen.

* Prince Musignano in his Synopsis of the Birds of the United States, see Ann. Lyc. Nat. Hist. N. Y., considers this as the *Motacilla tigrina*, GMEL. Syst. I., p. 985. If this be correct the following synonymes may be quoted:—*Sylvia tigrina*, LATH. Ind. Orn. II., p. 537.—VIEILL. Ois. de l'Am. Sept. pl. 94.—*Ficedula Canadensis fusca*, BRISS. III., p. 515, 63, t. 27, f. 4.—Id. 8vo. I., p. 451.—*Le Figuier tacheté de jaune*, BUFF. V., p. 293.—*Spotted Yellow Flycatcher*, Arct. Zool. II., No. 302.—EDW. pl. 257.—LATH. Syn. IV., p. 482, 106.

SPECIES XXXV. *SYLVIA PARUS*.
HEMLOCK WARBLER.

[Plate XLIV. Fig. 3.]

THIS is another nondescript, first met with in the Great Pine Swamp, Pennsylvania. From observing it almost always among the branches of the hemlock trees, I have designated it by that appellation, the markings of its plumage not affording me a peculiarity sufficient for a specific name. It is a most lively and active little bird, climbing among the twigs, and hanging like a Titmouse on the branches; but possessing all the external characters of the Warblers. It has a few low and very sweet notes, at which times it stops and repeats them for a short time, then darts about as before. It shoots after flies to a considerable distance; often begins at the lower branches, and hunts with great regularity and admirable dexterity, upwards to the top, then flies off to the next tree, at the lower branches of which it commences hunting upwards as before.

This species is five inches and a half long, and eight inches in extent; bill black above, pale below; upper parts of the plumage black, thinly streaked with yellow olive; head above yellow, dotted with black; line from the nostril over the eye, sides of the neck and whole breast rich yellow; belly paler, streaked with dusky; round the breast some small streaks of blackish; wing black, the greater coverts and next superior row broadly tipped with white, forming two broad bars across the wing; primaries edged with olive, tertials with white; tail coverts black, tipped with olive; tail slightly forked, black, and edged with olive; the three exterior feathers altogether white on their inner vanes; legs and feet dirty yellow; eye dark hazel; a few bristles at the mouth; bill not notched.

This was a male. Of the female I can at present give no account.

SPECIES XXXVI. *SYLVIA MARITIMA*.

CAPE-MAY WARBLER.

[Plate LIV. Fig. 3, Male.]

THIS new and beautiful little species was discovered in a maple swamp, in Cape May county, not far from the coast, by Mr. George Ord of this city, who accompanied me on a shooting excursion to that quarter in the month of May last. Through the zeal and activity of this gentleman I succeeded in procuring many rare and elegant birds among the sea islands and extensive salt marshes that border that part of the Atlantic; and much interesting information relative to their nests, eggs, and particular habits. I have also at various times been favored with specimens of other birds from the same friend, for all which I return my grateful acknowledgments.

The same swamp that furnished us with this elegant little stranger, and indeed several miles around it, were ransacked by us both, for another specimen of the same; but without success. Fortunately it proved to be a male, and being in excellent plumage, enabled me to preserve a faithful portrait of the original.

Whether this be a summer resident in the lower parts of New Jersey, or merely a transient passenger to a more northern climate, I cannot with certainty determine. The spring had been remarkably cold, with long and violent north-east storms, and many winter birds, as well as passengers from the south, still lingered in the woods as late as the twentieth of May, gleanings, in small companies, among the opening buds and infant leaves, and skipping nimbly from twig to twig, which was the case with the bird now before us when it was first observed. Of its notes, or particular history, I am equally uninformed.

The length of this species is five inches and a half, extent eight and a half; bill and legs black; whole upper part of the head deep black; line from the nostril over the eye, chin and sides of the neck rich yellow; ear feathers orange, which also tints the back part of the yellow line over the eye; at the anterior and posterior angle of the eye is a small touch of black; hind head and whole back, rump and tail coverts yellow olive, thickly streaked with black; the upper exterior edges of several of the greater wing coverts are pure white, forming a broad bar on the wing, the next superior row being also broadly tipped with white;

rest of the wing dusky, finely edged with dark olive yellow; throat and whole breast rich yellow, spreading also along the sides under the wings, handsomely marked with spots of black running in chains; belly and vent yellowish white; tail forked, dusky black, edged with yellow olive, the three exterior feathers on each side marked on their inner vanes with a spot of white. The yellow on the throat and sides of the neck reaches nearly round it, and is very bright.

GENUS XLIV. PIPRA. MANAKIN.

SPECIES. *PIPRA POLYGLOTTA*.

YELLOW-BREASTED CHAT.

[Plate VI. Fig. 2.]

Muscicapa viridis, GMEL. *Syst.* I., 936.—*Le Merle vert de la Caroline*, BUFFON, III., 396.—*Chattering Flycatcher*, ARCT. *Zool.* II., No. 266.—LATH. *Syn.* III., 350, 48.—*Garrulus Australis*, BARTRAM, 290.*

THIS is a very singular bird. In its voice and manners, and the habit it has of keeping concealed, while shifting and vociferating around you, it differs from most other birds with which I am acquainted; and has considerable claims to originality of character. It arrives in Pennsylvania about the first week in May, and returns to the south again as soon as its young are able for the journey, which is usually about the middle of August; its term of residence here being scarcely four months. The males generally arrive several days before the females, a circumstance common with many other of our birds of passage.

When he has once taken up his residence in a favorite situation, which is almost always in close thickets of hazel, brambles, vines, and thick underwood, he becomes very jealous of his possessions, and seems offended at the least intrusion; scolding every passenger as soon as they come within view, in a great variety of odd and uncouth monosyllables, which it is difficult to describe, but which may be readily imitated so as to deceive the bird himself, and draw him after you for half a quarter of a mile at a time, as I have sometimes amused myself in doing, and frequently without once seeing him. On these occasions his responses are constant and rapid, strongly expressive of anger and anxiety; and while the bird itself remains unseen, the voice shifts from place to place, among the bushes, as if it proceeded from a spirit. First are heard a repetition of short notes, resembling the whistling of

* *Ictera dumicola*, VIEILL. *Ois. de l'Am. Sept.* pl. 55.

the wings of a duck or teal, beginning loud and rapid, and falling lower and slower till they end in detached notes; then a succession of others, something like the barking of young puppies, is followed by a variety of hollow guttural sounds, each eight or ten times repeated, more like those proceeding from the throat of a quadruped than that of a bird; which are succeeded by others not unlike the mewing of a cat, but considerably hoarser. All these are uttered with great vehemence, in such different keys, and with such peculiar modulations of voice, as sometimes to seem at a considerable distance and instantly as if just beside you; now on this hand, now on that; so that from these manœuvres of ventriloquism you are utterly at a loss to ascertain from what particular spot or quarter they proceed. If the weather be mild and serene, with clear moonlight, he continues gabbling in the same strange dialect, with very little intermission, during the whole night, as if disputing with his own echoes; but probably with a design of inviting the passing females to his retreat; for when the season is farther advanced they are seldom heard during the night.

About the middle of May they begin to build. Their nest is usually fixed in the upper part of a bramble bush, in an almost impenetrable thicket; sometimes in a thick vine or small cedar; seldom more than four or five feet from the ground. It is composed outwardly of dry leaves, within these are laid thin strips of the bark of grape-vines, and the inside is lined with fibrous roots of plants, and fine dry grass. The female lays four eggs, slightly flesh colored, and speckled all over with spots of brown or dull red. The young are hatched in twelve days; and make their first excursion from the nest about the second week in June. A friend of mine, an amateur in Canary birds, placed one of the Chat's eggs under a hen Canary, who brought it out; but it died on the second day; though she was so solicitous to feed and preserve it, that her own eggs, which required two days more sitting, were lost through her attention to this.

While the female of the Chat is sitting, the cries of the male are still more loud and incessant. When once aware that you have seen him he is less solicitous to conceal himself; and will sometimes mount up into the air, almost perpendicularly to the height of thirty or forty feet, with his legs hanging; descending, as he rose, by repeated jerks, as if highly irritated, or as is vulgarly said "dancing mad." All this noise and gesticulation we must attribute to his extreme affection for his mate and young; and when we consider the great distance which in all probability he comes, the few young produced at a time, and that seldom more than once in the season, we can see the wisdom of Providence very manifestly in the ardency of his passions.

Catesby seems to have first figured the Yellow-breasted Chat; and the singularity of its manners has not escaped him. After repeated

attempts to shoot one of them, he found himself completely baffled; and was obliged, as he himself informs us, to employ an Indian for that purpose, who did not succeed without exercising all his ingenuity. Catesby also observed its dancing manœuvres, and supposed that it always flew with its legs extended; but it is only in these paroxysms of rage and anxiety that this is done, as I have particularly observed.

The food of these birds consists chiefly of large black beetles, and other coleopterous insects; I have also found whortleberries frequently in their stomach, in great quantities; as well as several other sorts of berries. They are very numerous in the neighborhood of Philadelphia, particularly on the borders of rivulets, and other watery situations, in hedges, thickets, &c., but are seldom seen in the forest, even where there is underwood. Catesby indeed asserts, that they are only found on the banks of large rivers, two or three hundred miles from the sea; but though this may be the case in South Carolina, yet in Maryland and New Jersey, and also in New York, I have met with these birds within two hours' walk of the sea, and in some places within less than a mile of the shore. I have not been able to trace him to any of the West India islands; though they certainly retire to Mexico, Guiana, and Brazil, having myself seen skins of these birds in the possession of a French gentleman, which were brought from the two latter countries.

By recurring to the synonymes at the beginning of this article, it will be perceived how much European naturalists have differed in classing this bird. That the judicious Pennant, Gmelin, and even Dr. Latham, however, should have arranged it with the Flycatchers, is certainly very extraordinary; as neither in the particular structure of its bill, tongue, feet, nor in its food or manners, has it any affinity whatever to that genus. Some other ornithologists have removed it to the Tanagers; but the bill of the Chat, when compared with that of the Summer Red-bird in the same plate, bespeaks it at once to be of a different tribe. Besides, the Tanagers seldom lay more than two or three eggs—the Chat usually four; the former build on trees; the latter in low thickets. In short, though this bird will not exactly correspond with any known genus, yet the form of its bill, its food, and many of its habits, would almost justify us in classing it with the genus *Pipra* (Manakin), to which family it seems most nearly related.

The Yellow-breasted Chat is seven inches long, and nine inches in extent; the whole upper parts are of a rich and deep olive green, except the tips of the wings, and interior vanes of the wing and tail feathers, which are dusky brown; the whole throat and breast is of a most brilliant yellow, which also lines the inside of the wings, and spreads on the sides immediately below; the belly and vent are white; the front slate-colored, or dull cinereous; lores black; from the nostril a line of white extends to the upper part of the eye, which it nearly encircles; another

spot of white is placed at the base of the lower mandible; the bill is strong, slightly curved, sharply ridged on the top, compressed, overhanging a little at the tip, not notched, pointed, and altogether black; the tongue is tapering, more fleshy than those of the *Muscicapa* tribe, and a little lacerated at the tip; the nostril is oval, and half covered with an arching membrane; legs and feet light blue, hind claw rather the strongest, the two exterior toes united to the second joint.

The female may be distinguished from the male by the black and white adjoining the eye being less intense or pure than in the male; and in having the inside of the mouth of a dirty flesh color, which in the male is black; in other respects their plumage is nearly alike.

GENUS XLV. PARUS. TITMOUSE.

SPECIES I. *P. ATRICAPILLUS*.

BLACK-CAPPED TITMOUSE.

[Plate VIII. Fig. 4.]

Parus atricapillus, LINN. *Syst.* I., 341, 6.—GMEL. *Syst.* I., 1008.—*La Mesange à tête noire de Canada*, BUFFON, V., 408.—*Canada Titmouse*, ARCT. Zool. II., No. 328.—LATH. *Syn.* IV., 542, 9.

THIS is one of our resident birds, active, noisy and restless, hardy beyond any of his size, braving the severest cold of our continent as far north as the country round Hudson's Bay, and always appearing most lively in the coldest weather. The males have a variety of very sprightly notes, which cannot indeed be called a song, but rather a lively, frequently repeated, and often varied twitter. They are most usually seen during the fall and winter, when they leave the depth of the woods, and approach nearer to the scenes of cultivation. At such seasons they abound among evergreens, feeding on the seeds of the pine tree; they are also fond of sunflower seeds, and associate in parties of six, eight, or more, attended by the two species of Nuthatch already described, the Crested Titmouse, Brown Creeper, and small Spotted Woodpecker; the whole forming a very nimble and restless company, whose food, manners and dispositions are pretty much alike. About the middle of April they begin to build, choosing the deserted hole of a squirrel or Woodpecker, and sometimes with incredible labor digging out one for themselves. The female lays six white eggs, marked with minute specks of red; the first brood appears about the beginning of June, and the second towards the end of July; the whole of the family

continue to associate together during winter. They traverse the woods in regular progression from tree to tree, tumbling, chattering and hanging from the extremities of the branches, examining about the roots of the leaves, buds, and crevices of the bark for insects and their larvæ. They also frequently visit the orchards, particularly in fall, the sides of the barn and barn-yard in the same pursuit, trees in such situations being generally much infested with insects. We therefore with pleasure rank this little bird among the farmer's friends, and trust our rural citizens will always recognise him as such.

This species has a very extensive range; it has been found on the western coast of America, as far north as lat. 62°; it is common at Hudson's Bay, and most plentiful there during winter, as it then approaches the settlements in quest of food. Protected by a remarkably thick covering of long soft downy plumage, it braves the severest cold of those northern regions.

The Black-capped Titmouse is five inches and a half in length, and six and a half in extent; throat and whole upper part of the head and ridge of the neck black; between these lines a triangular patch of white ending at the nostril; bill black and short, tongue truncate; rest of the upper parts lead colored or cinereous, slightly tinged with brown, wings edged with white; breast, belly and vent yellowish white: legs light blue; eyes dark hazel. The male and female are nearly alike. The figure in the plate renders any further description unnecessary.

The upper parts of the head of the young are for some time of a dirty brownish tinge; and in this state they agree so exactly with the *Parus Hudsonicus*,* described by Latham, as to afford good grounds for suspecting them to be the same.

These birds sometimes fight violently with each other, and are known to attack young and sickly birds that are incapable of resistance, always directing their blows against the skull. Being in the woods one day, I followed a bird for some time, the singularity of whose notes surprised me. Having shot him from off the top of a very tall tree, I found it to be the Black-headed Titmouse, with a long and deep indentation in the cranium, the skull having been evidently at some former time driven in, and fractured, but was now perfectly healed. Whether or not the change of voice could be owing to this circumstance I cannot pretend to decide.

* Hudson Bay Titmouse, Synopsis, II., 557.

SPECIES II. *PARUS BICOLOR*.
CRESTED TITMOUSE.

[Plate VIII. Fig. 5.]

Parus bicolor, LINN. *Syst.* I., 544, 1.—*La Mesange huppée de la Caroline*, BUFF. V., 451.—*Toupet Titmouse*, *Arct. Zool.* I., No. 324.—LATH. *Syn.* IV., 544, 11.

THIS is another associate of the preceding species; but more noisy, more musical, and more suspicious, though rather less active. It is, nevertheless, a sprightly bird, possessing a remarkable variety in the tones of its voice, at one time not much louder than the squeaking of a mouse, and in a moment after whistling aloud, and clearly, as if calling a dog; and continuing this dog-call through the woods for half an hour at a time. Its high, pointed crest, or as Pennant calls it, *toupet*, gives it a smart and not inelegant appearance. Its food corresponds with that of the foregoing; it possesses considerable strength in the muscles of its neck, and is almost perpetually digging into acorns, nuts, crevices, and rotten parts of the bark, after the larvæ of insects. It is also a constant resident here. When shot at and wounded, it fights with great spirit. When confined to a cage it soon becomes familiar, and will subsist on hemp-seed, cherry-stones, apple seeds, and hickory nuts, broken and thrown in to it. However, if the cage be made of willows, and the bird not much hurt, he will soon make his way through them. The great concavity of the lower side of the wings and tail of this genus of birds, is a strong characteristic, and well suited to their short irregular flight.

This species is also found over the whole United States; but is most numerous towards the north. It extends also to Hudson's Bay; and, according to Latham, is found in Denmark, and in the southern parts of Greenland, where it is called *Avingarsak*. If so, it probably inhabits the continent of North America, from sea to sea.

The Crested Titmouse is six inches long, and seven inches and a half in extent; the whole upper parts a dull cinereous, or lead color, except the front, which is black, tinged with reddish; whole lower parts dirty white, except the sides under the wings, which are reddish orange; legs and feet light blue; bill black, short and pretty strong; wing feathers relieved with dusky on their inner vanes; eye dark hazel; lores white; the head elegantly ornamented with a high, pointed, almost upright crest; tail a little forked, considerably concave below, and of the same

color above as the back; tips of the wings dusky; tongue very short, truncate, and ending in three or four sharp points. The female cannot be distinguished from the male by her plumage, unless in its being something duller, for both are equally marked with reddish orange on the sides under the wings, which some foreigners have made the distinguishing mark of the male alone.

The nest is built in a hollow tree, the cavity often dug by itself; the female begins to lay early in May; the eggs are usually six, pure white, with a few very small specks of red near the great end. The whole family, in the month of July, hunt together, the parents keeping up a continual chatter, as if haranguing and directing their inexperienced brood.

GENUS XLVI. HIRUNDO. SWALLOW.

SPECIES I. *H. PURPUREA*.

PURPLE MARTIN.

[Plate XXXIX. Fig. 1, Male. Fig. 2, Female.]

LATH. *Syn.* IV., p. 574, 21. *Ibid.* IV., p. 575, 23.—CATESB. *Car.* I., 51.—*Arct. Zool.* II., No. 333.—*Hirondelle bleue de la Caroline*, BUFF. VI., p. 674. *Pl. Enl.* 722.—*Le Martinet couleur de pourpre*, BUFF. VI., p. 676.—TURT. *Syst.* 629.—EDW. 120.—*Hirundo subis*, LATH. IV., p. 575-24.*

THIS well known bird is a general inhabitant of the United States, and a particular favorite wherever he takes up his abode. I never met with more than one man who disliked the Martins and would not permit them to settle about his house. This was a penurious close-fisted German, who hated them because, as he said, "they eat his *peas*." I told him he must certainly be mistaken, as I never knew an instance of Martins eating *peas*; but he replied with coolness that he had many times seen them himself "blaying near the hife, and going *schnip, schnap*," by which I understood that it was his *bees* that had been the sufferers; and the charge could not be denied.

This sociable and half domesticated bird arrives in the southern frontiers of the United States late in February or early in March; reaches Pennsylvania about the first of April, and extends his migrations as far north as the country round Hudson's Bay, where he is first seen in May, and disappears in August; so, according to the doctrine of torpid-

* We add the following synonyms:—*Hirundo purpurea*, LINN. *Syst.* I., p. 344.—GMEL. *Syst.* I., p. 1020.—*Hirundo cærulea*, VIEILL. *Ois. de l'Am. Sept.* pl. 25, male; pl. 27, female.

ity, has consequently a pretty long annual nap in those frozen regions, of eight or nine months, under the ice! We, however, choose to consider him as advancing northerly with the gradual approach of spring, and retiring with his young family, on the first decline of summer, to a more congenial climate.

The summer residence of this agreeable bird is universally among the habitations of man; who, having no interest in his destruction, and deriving considerable advantage as well as amusement from his company, is generally his friend and protector. Wherever he comes, he finds some hospitable retreat fitted up for his accommodation and that of his young, either in the projecting wooden cornice—on the top of the roof, or sign post—in the box appropriated to the Blue-bird; or, if all these be wanting, in the dove-house among the pigeons. In this last case, he sometimes takes possession of one quarter or tier of the premises, in which not a pigeon dare for a moment set its foot. Some people have large conveniences formed for the Martins, with many apartments, which are usually fully tenanted, and occupied regularly every spring; and in such places, particular individuals have been noted to return to the same box for several successive years. Even the solitary Indian seems to have a particular respect for this bird. The Choctaws and Chickasaws cut off all the top branches from a sapling near their cabins, leaving the prongs a foot or two in length, on each of which they hang a gourd, or calabash, properly hollowed out for their convenience. On the banks of the Mississippi the negroes stick up long canes, with the same species of apartment fixed to their tops, in which the Martins regularly breed. Wherever I have travelled in this country I have seen with pleasure the hospitality of the inhabitants to this favorite bird.

As superseding the necessity of many of my own observations on this species, I beg leave to introduce in this place an extract of a letter from the late learned and venerable John Joseph Henry, Esq., Judge of the Supreme Court of Pennsylvania, a man of most amiable manners, which was written to me but a few months before his death, and with which I am happy to honor my performance.—“The history of the Purple Martin of America,” says he, “which is indigenous in Pennsylvania and countries very far north of our latitude, will, under your control, become extremely interesting. We know its manners, habits, and useful qualities here; but we are not generally acquainted with some traits in its character, which in my mind rank it in the class of the most remarkable birds of passage. Somewhere (I cannot now refer to book and page) in Anson’s Voyage, or in Dampier, or some other southern voyager, I recollect that the Martin is named as an inhabitant of the regions of southern America, particularly of Chili; and in consequence from the knowledge we have of its immense emigra-

tion northward in our own country, we may fairly presume that its flight extends to the south as far as Terra del Fuego. If the conjecture be well founded, we may with some certainty place this useful and delightful companion and friend of the human race as the first in the order of birds of passage. Nature has furnished it with a lengthy, strong, and nervous pinion; its legs are short too, as not to impede its passage; the head and body are flattish; in short, it has every indication from bodily formation that Providence intended it as a bird of the longest flight. Belknap speaks of it as a visitant of New Hampshire. I have seen it in great numbers at Quebec. Hearne speaks of it in lat. 60° North. To ascertain the times of the coming of the Martin to New Orleans, and its migration to and from Mexico, Quito and Chili, are desirable data in the history of this bird; but it is probable that the state of science in those countries renders this wish hopeless.

“Relative to the domestic history, if it may be so called, of the Blue-bird (of which you have given so correct and charming a description) and the Martin, permit me to give you an anecdote. In 1800 I removed from Lancaster to a farm a few miles above Harrisburg. Knowing the benefit derivable to a farmer from the neighborhood of the Martin in preventing the depredations of the Bald Eagle, the Hawks and even the Crows, my carpenter was employed to form a large box with a number of apartments for the Martin. The box was put up in the autumn. Near and around the house were a number of well grown apple trees and much shrubbery, a very fit haunt for the feathered race. About the middle of February the Blue-birds came; in a short time they were very familiar, and took possession of the box: these consisted of two or three pairs. By the fifteenth of May the Blue-birds had eggs, if not young. Now the Martins arrived in numbers, visited the box, and a severe conflict ensued. The Blue-birds, seemingly animated by their right of possession, or for the protection of their young, were victorious. The Martins regularly arrived about the middle of May for the eight following years, examined the apartments of the box in the absence of the Blue-birds, but were uniformly compelled to fly upon the return of the latter.

“The trouble caused you by reading this note you will be pleased to charge to the Martin. A box replete with that beautiful traveller, is not very distant from my bed head. Their notes seem discordant because of their numbers; yet to me they are pleasing. The industrious farmer and mechanic would do well to have a box fixed near the apartments of their drowsy laborers. Just as the dawn approaches, the Martin begins its notes, which last half a minute or more; and then subside until the twilight is fairly broken. An animated and incessant musical chattering now ensues, sufficient to arouse the most sleepy person. Perhaps chanticleer is not their superior in this beneficial qualifi-

cation; and he is far beneath the Martin in his powers of annoying birds of prey."

I shall add a few particulars to this faithful and interesting sketch by my deceased friend. About the middle or twentieth of April the Martins first begin to prepare their nest. The last of these which I examined was formed of dry leaves of the weeping willow, slender straws, hay and feathers, in considerable quantity. The eggs were four, very small for the size of the bird, and pure white without any spots. The first brood appears in May, the second late in July. During the period in which the female is laying, and before she commences incubation, they are both from home the greater part of the day. When the female is sitting she is frequently visited by the male, who also occupies her place while she takes a short recreation abroad. He also often passes a quarter of an hour in the apartment beside her, and has become quite domesticated since her confinement. He sits on the outside dressing and arranging his plumage, occasionally passing to the door of the apartment as if to inquire how she does. His notes at this time seem to have assumed a peculiar softness, and his gratulations are expressive of much tenderness. Conjugal fidelity, even where there is a number together, seems to be faithfully preserved by these birds. On the twenty-fifth of May a male and female Martin took possession of a box in Mr. Bartram's garden. A day or two after, a second female made her appearance, and stayed for several days; but from the cold reception she met with, being frequently beat off by the male, she finally abandoned the place, and set off, no doubt to seek for a more sociable companion.

The Purple Martin, like his half-cousin the King-bird, is the terror of Crows, Hawks, and Eagles. These he attacks whenever they make their appearance, and with such vigor and rapidity, that they instantly have recourse to flight. So well known is this to the lesser birds and to the domestic poultry, that as soon as they hear the Martin's voice, engaged in fight, all is alarm and consternation. To observe with what spirit and audacity this bird dives and sweeps upon and around the Hawk or the Eagle is astonishing. He also bestows an occasional bastinado on the King-bird when he finds him too near his premises; though he will at any time instantly co-operate with him in attacking the common enemy.

The Martin differs from all the rest of our swallows in the particular prey which he selects. Wasps, bees, large beetles, particularly those called by the boys *goldsmiths*, seem his favorite game. I have taken four of these large beetles from the stomach of a Purple Martin, each of which seemed entire and even unbruised.

The flight of the Purple Martin unites in it all the swiftness, ease, rapidity of turning and gracefulness of motion of its tribe. Like the

Swift of Europe, he sails much with little action of the wings. He passes through the most crowded parts of our streets, eluding the passengers with a quickness of thought; or plays among the clouds, gliding about at a vast height, like an aerial being. His usual note *peuo peuo*, is loud and musical; but is frequently succeeded by others more low and guttural. Soon after the twentieth of August he leaves Pennsylvania for the south.

This bird has been described three or four different times by European writers, as so many different species. The Canadian Swallow of Turton, and the Great American Martin of Edwards, being evidently the female of the present species. The Violet Swallow of the former author, said to inhabit Louisiana, differs in no respect from the present. Deceived by the appearance of the flight of this bird, and its similarity to that of the Swift of Europe, strangers from that country have also asserted that the Swift is common to North America and the United States. No such bird, however, inhabits any part of this continent that I have as yet visited.

The Purple Martin is eight inches in length, and sixteen inches in extent; except the lores, which are black, and wings and tail, which are of a brownish black, he is of a rich and deep purplish blue, with strong violet reflections; the bill is strong, the gap very large; the legs also short, stout, and of a dark dirty purple; the tail consists of twelve feathers, is considerably forked and edged with purple blue, the eye full and dark.

The female (fig. 2) measures nearly as large as the male; the upper parts are blackish brown, with blue and violet reflections thinly scattered; chin and breast grayish brown; sides under the wings darker; belly and vent whitish, not pure, with stains of dusky and yellow ochre; wings and tail blackish brown

SPECIES II. *HIRUNDO AMERICANA*.

BARN SWALLOW.

[Plate XXXVIII. Fig. 1, Male. Fig. 2, Female.]

THERE are but few persons in the United States unacquainted with this gay, innocent, and active little bird. Indeed the whole tribe are so distinguished from the rest of small birds by their sweeping rapidity of flight, their peculiar aerial evolutions of wing over our fields and rivers, and through our very streets, from morning to night, that the light of heaven itself, the sky, the trees, or any other common objects of nature, are not better known than the Swallows. We welcome their first appearance with delight, as the faithful harbingers and companions of flowery spring, and ruddy summer; and when, after a long, frost-bound and boisterous winter, we hear it announced, that "*The Swallows are come,*" what a train of charming ideas are associated with the simple tidings!

The wonderful activity displayed by these birds forms a striking contrast to the slow habits of most other animals. It may be fairly questioned whether among the whole feathered tribes which Heaven has formed to adorn this part of creation, there be any that, in the same space of time, pass over an equal extent of surface with the Swallow. Let a person take his stand on a fine summer evening by a new mown field, meadow or river shore for a short time, and among the numerous individuals of this tribe that flit before him, fix his eye on a particular one, and follow, for a while, all its circuitous labyrinths—its extensive sweeps—its sudden, rapidly reiterated zigzag excursions, little inferior to the lightning itself, and then attempt by the powers of mathematics to calculate the length of the various lines it describes. Alas! even his omnipotent fluxions would avail him little here, and he would soon abandon the task in despair. Yet, that some definite conception may be formed of this extent, let us suppose, that this little bird flies, in his usual way, at the rate of one mile in a minute, which, from the many experiments I have made, I believe to be within the truth; and that he is so engaged for ten hours every day; and further, that this active life is extended to ten years (many of our small birds being known to live much longer even in a state of domestication), the amount of all

these, allowing three hundred and sixty-five days to a year, would give us two millions one hundred and ninety thousand miles; upwards of eighty-seven times the circumference of the globe! Yet this little *winged seraph*, if I may so speak, who, in a few days, and at will, can pass from the borders of the arctic regions to the torrid zone, is forced, when winter approaches, to descend to the bottoms of lakes, rivers, and mill ponds to bury itself in the mud with eels and snapping turtles; or to creep ingloriously into a cavern, a rat hole, or a hollow tree, there to doze with snakes, toads, and other reptiles until the return of spring! Is not this true, ye wise men of Europe and America, who have published so many *credible* narratives on this subject?

The Geese, the Ducks, the Cat-bird, and even the Wren, which creeps about our outhouses in summer like a mouse, are all acknowledged to be migratory, and to pass to southern regions at the approach of winter;—the Swallow alone, on whom Heaven has conferred superior powers of wing, must sink in torpidity at the bottom of our rivers, or doze all winter in the caverns of the earth. I am myself something of a traveller, and foreign countries afford many novel sights: should I assert, that in some of my peregrinations I had met with a nation of Indians, all of whom, old and young, at the commencement of cold weather, descend to the bottom of their lakes and rivers, and there remain until the breaking up of frost; nay, should I affirm, that thousands of people in the neighborhood of this city, regularly undergo the same semi-annual submersion—that I myself had fished up a whole family of these from the bottom of the Schuylkill, where they had lain *torpid* all winter, carried them home, and brought them all comfortably to themselves again. Should I even publish this in the learned pages of the Transactions of our Philosophical Society, who would believe me? Is then the organization of a Swallow less delicate than that of a man? Can a bird, whose vital functions are destroyed by a short privation of pure air and its usual food, sustain, for six months, a situation where the most robust man would perish in a few hours or minutes? Away with such absurdities!—They are unworthy of a serious refutation. I should be pleased to meet with a man who has been personally more conversant with birds than myself, who has followed them in their wide and devious routes—studied their various manners—mingled with and marked their peculiarities more than I have done; yet the miracle of a resuscitated Swallow, in the depth of winter, from the bottom of a mill-pond, is, I confess, a phenomenon in ornithology that I have never met with.

What better evidence have we that these fleet-winged tribes, instead of following the natural and acknowledged migrations of many other birds, lie torpid all winter in hollow trees, caves and other subterraneous recesses? That the Chimney Swallow, in the early part of summer,

may have been found in a hollow tree, and in great numbers too, is not denied; such being in some places of the country (as will be shown in the history of that species), their actual places of rendezvous, on their first arrival, and their common roosting place long after; or that the Bank Swallows, also, soon after their arrival, in the early part of spring, may be chilled by the cold mornings which we frequently experience at that season, and be found in this state in their holes, I would as little dispute; but that either the one or the other has ever been found, *in the midst of winter*, in a state of *torpidity*, I do not, cannot believe. Millions of trees of all dimensions are cut down every fall and winter of this country, where, in their proper season, Swallows swarm around us. Is it therefore in the least probable that we should, only once or twice in an age, have no other evidence than one or two solitary and very suspicious reports of a Mr. Somebody having made a discovery of this kind? If caves were their places of winter retreat, perhaps no country on earth could supply them with a greater choice. I have myself explored many of these in various parts of the United States both in winter and in spring, particularly in that singular tract of country in Kentucky, called the *Barrens*, where some of these subterraneous caverns are several miles in length, lofty and capacious, and pass under a large and deep river—have conversed with the saltpetre workers by whom they are tenanted; but never heard or met with one instance of a Swallow having been found there in winter. These people treated such reports with ridicule.

It is to be regretted that a greater number of experiments have not been made, by keeping live Swallows through the winter, to convince these believers in the torpidity of birds, of their mistake. That class of cold-blooded animals which are *known* to become torpid during winter, and of which hundreds and thousands are found every season, are subject to the same when kept in a suitable room for experiment. How is it with the Swallows in this respect? Much powerful testimony might be produced on this point; the following experiments recently made by Mr. James Pearson of London, and communicated by Sir John Trevelyn, Bart., to Mr. Bewick, the celebrated engraver in wood, will be sufficient for our present purpose, and throw great light on this part of the subject.*

“Five or six of these birds were taken about the latter end of August, 1784, in a bat fowling net at night; they were put separately into small cages, and fed with Nightingale’s food: in about a week or ten days they took food of themselves; they were then put all together into a deep cage, four feet long, with gravel at the bottom; a broad shallow pan with water was placed in it, in which they sometimes washed them-

* See Bewick’s *British Birds*, vol. i., p. 254.

selves, and seemed much strengthened by it. One day Mr. Pearson observed that they went into the water with unusual eagerness, hurrying in and out again repeatedly with such swiftness as if they had been suddenly seized with a frenzy. Being anxious to see the result, he left them to themselves about half an hour, and going to the cage again found them all huddled together in a corner apparently dead; the cage was then placed at a proper distance from the fire, when only two of them recovered and were as healthy as before—the rest died. The two remaining ones were allowed to wash themselves occasionally for a short time only; but their feet soon after became swelled and inflamed, which Mr. P. attributed to their perching, and they died about Christmas. Thus the first year's experiment was in some measure lost. Not discouraged by the failure of this, Mr. P. determined to make a second trial the succeeding year, from a strong desire of being convinced of the truth of their going into a state of torpidity. Accordingly the next season having taken some more birds he put them into the cage, and in every respect pursued the same methods as with the last; but to guard their feet from the bad effects of the damp and cold he covered the perches with flannel, and had the pleasure to observe that the birds throve extremely well; they sung their song during the winter, and soon after Christmas began to moult, which they got through without any difficulty, and lived three or four years, regularly moulting every year at the usual time. On the renewal of their feathers it appeared that their tails were forked exactly the same as in those birds which return hither in the spring, and in every respect their appearance was the same. These birds, says Mr. Pearson, were exhibited to the Society for Promoting Natural History, on the fourteenth day of February, 1786, at the time they were in a deep moult, during a severe frost, when the snow was on the ground. Minutes of this circumstance were entered in the books of the society. These birds died at last from neglect, during a long illness which Mr. Pearson had: they died in the summer. Mr. P. concludes his very interesting account in these words: January 20th, 1797, I have now in my house, No. 21, Great Newport street, Long Acre, four Swallows in moult, in as perfect health as any birds ever appeared to be when moulting."

The Barn Swallow of the United States has hitherto been considered by many writers as the same with the common Chimney Swallow of Europe. They differ, however, considerably, in color, as well as in habits; the European species having the belly and vent white, the American species those parts of a bright chestnut; the former building in the corners of chimneys, near the top, the latter never in such places; but usually in barns, sheds, and other outhouses, on beams, braces, rafters, &c. It is difficult to reconcile these constant differences of manners and markings in one and the same bird; I shall therefore take

the liberty of considering the present as a separate and distinct species.

The Barn Swallow arrives in this part of Pennsylvania from the south on the last week in March, or the first week in April, and passes on to the north as far, at least, as the river St. Lawrence. On the east side of the great range of the Alleghany, they are dispersed very generally over the country, wherever there are habitations, even to the summit of high mountains; but, on account of the greater coldness of such situations, are usually a week or two later in making their appearance there. On the 16th of May, being on a shooting expedition on the top of Pocono Mountain, Northampton, when the ice on that and on several successive mornings was more than a quarter of an inch thick, I observed with surprise a pair of these Swallows which had taken up their abode on a miserable cabin there. It was then about sunrise, the ground white with hoar frost, and the male was twittering on the roof by the side of his mate with great sprightliness. The man of the house told me that a single pair came regularly there every season, and built their nest on a projecting beam under the eaves, about six or seven feet from the ground. At the bottom of the mountain, in a large barn belonging to the tavern there, I counted upwards of twenty nests, all seemingly occupied. In the woods they are never met with; but as you approach a farm they soon catch the eye, cutting their gambols in the air. Scarcely a barn, to which these birds can find access, is without them; and as public feeling is universally in their favor, they are seldom or never disturbed. The proprietor of the barn last mentioned, a German, assured me, that if a man permitted the Swallows to be shot his cows would give bloody milk, and also that no barn where Swallows frequented would ever be struck with lightning; and I nodded assent. When the tenets of superstition "lean to the side of humanity" one can readily respect them. On the west side of the Alleghany these birds become more rare. In travelling through the states of Kentucky and Tennessee, from Lexington to the Tennessee river, in the months of April and May, I did not see a single individual of this species; though the Purple Martin, and, in some places, the Bank Swallow was numerous.

Early in May they begin to build. From the size and structure of the nest it is nearly a week before it is completely finished. One of these nests, taken on the 21st of June from the rafter to which it was closely attached, is now lying before me. It is in the form of an inverted cone with a perpendicular section cut off on that side by which it adhered to the wood. At the top it has an extension of the edge, or offset, for the male or female to sit on occasionally, as appeared by the dung; the upper diameter was about six inches by five, the height externally seven inches. This shell is formed of mud, mixed with fine hay, as plasterers do their mortar with

hair, to make it adhere the better; the mud seems to have been placed in regular strata, or layers, from side to side; the hollow of this cone (the shell of which is about an inch in thickness) is filled with fine hay, well stuffed in; above that is laid a handful of very large downy geese feathers; the eggs are five, white, speckled and spotted all over with reddish brown. Owing to the semi-transparency of the shell the eggs have a slight tinge of flesh color. The whole weighs about two pounds.

They have generally two broods in the season. The first make their appearance about the second week in June; and the last brood leave the nest about the 10th of August. Though it is not uncommon for twenty, and even thirty pair, to build in the same barn, yet everything seems to be conducted with great order and affection; all seems harmony among them, as if the interest of each were that of all. Several nests are often within a few inches of each other; yet no appearance of discord or quarrelling takes place in this peaceful and affectionate community.

When the young are fit to leave the nest, the old ones entice them out by fluttering backwards and forwards, twittering and calling to them every time they pass; and the young exercise themselves, for several days, in short essays of this kind, *within doors*, before they first venture abroad. As soon as they leave the barn they are conducted by their parents to the trees, or bushes, by the pond, creek, or river shore, or other suitable situation, where their proper food is most abundant, and where they can be fed with the greatest convenience to both parties. Now and then they take a short excursion themselves, and are also frequently fed while on wing by an almost instantaneous motion of both parties, rising perpendicularly in air and meeting each other. About the middle of August they seem to begin to prepare for their departure. They assemble on the roof in great numbers, dressing and arranging their plumage, and making occasional essays, twittering with great cheerfulness. Their song is a kind of sprightly warble, sometimes continued for a considerable time. From this period to the eighth of September they are seen near the Schuylkill and Delaware, every afternoon, for two or three hours before sunset, passing along to the south in great numbers, feeding as they skim along. I have counted several hundreds pass within sight in less than a quarter of an hour, all directing their course towards the south. The reeds are now their regular roosting places; and about the middle of September there is scarcely an individual of them to be seen. How far south they continue their route is uncertain; none of them remain in the United States. Mr. Bartram informs me, that during his residence in Florida, he often saw vast flocks of this and our other Swallows, passing from the peninsula towards the south in September and October; and also on their return to the north about the middle of March. It is highly probable, that

were the countries to the south of the Gulf of Mexico, and as far south as the great river Marañon, visited and explored by a competent naturalist, these regions would be found to be the winter rendezvous of the very birds now before us, and most of our other migratory tribes.

In a small volume which I have lately met with, entitled "An Account of the British settlement of Honduras," by Captain George Henderson, of the 5th West India regiment, published in London in 1809, the writer, in treating of that part of its natural history which relates to birds, gives the following particulars. "Myriads of Swallows," says he, "are also the occasional inhabitants of Honduras. The time of their residence is generally confined to the period of the rains [that is from October to February], after which they totally disappear. There is something remarkably curious and deserving of notice in the ascent of these birds. As soon as the dawn appears they quit their place of rest, which is usually chosen amid the rushes of some watery savanna; and invariably rise to a certain height, in a compact spiral form, and which at a distance often occasions them to be taken for an immense column of smoke. This attained, they are then seen separately to disperse in search of food, the occupation of their day. To those who may have had the opportunity of observing the phenomenon of a water spout, the similarity of evolution, in the ascent of these birds, will be thought surprisingly striking. The descent, which regularly takes place at sunset, is conducted much in the same way; but with inconceivable rapidity: and the noise which accompanies this can only be compared to the falling of an immense torrent; or the rushing of a violent gust of wind. Indeed, to an observer it seems wonderful, that thousands of these birds are not destroyed, in being thus propelled to the earth with such irresistible force."*

How devoutly it is to be wished that the natural history of those regions were more precisely known! So absolutely necessary as it is to the perfect understanding of this department of our own!

The Barn Swallow is seven inches long, and thirteen inches in extent; bill black; upper part of the head, neck, back, rump and tail coverts, steel blue, which descends rounding on the breast; front and chin deep chestnut; belly, vent, and lining of the wing, light chestnut; wings and tail brown black, slightly glossed with reflections of green; tail greatly forked, the exterior feather on each side an inch and a half longer than the next, and tapering towards the extremity, each feather, except the two middle ones, marked on its inner vane with an oblong spot of white; lores black; eye dark hazel; sides of the mouth yellow; legs dark purple.

The female differs from the male in having the belly and vent rufous

* Henderson's Honduras, p. 119.

white, instead of light chestnut; these parts are also slightly clouded with rufous; and the exterior tail feathers are shorter.

These birds are easily tamed, and soon become exceedingly gentle and familiar. I have frequently kept them in my room for several days at a time, where they employed themselves in catching flies, picking them from my clothes, hair, &c., calling out occasionally as they observed some of their old companions passing the windows.

SPECIES III. *HIRUNDO VIRIDIS*.*

WHITE-BELLIED SWALLOW.

[Plate XXXVIII. Fig. 3.]

THIS is the species hitherto supposed by Europeans to be the same with their common Martin, *Hirundo urbica*, a bird nowhere to be found within the United States. The English Martin is blue black above; the present species greenish blue; the former has the whole rump white, and the legs and feet are covered with short white downy feathers; the latter has nothing of either. That ridiculous propensity in foreign writers, to consider most of our birds as *varieties* of their own, has led them into many mistakes, which it shall be the business of the author of the present work to point out, decisively, wherever he may meet with them.

The White-bellied Swallow arrives in Pennsylvania a few days later than the preceding species. It often takes possession of an apartment in the boxes appropriated to the Purple Martin; and also frequently builds and hatches in a hollow tree. The nest consists of fine loose dry grass, lined with large downy feathers, rising above its surface, and so placed as to curl inwards and completely conceal the eggs. These last are usually four or five in number, and pure white. They also have two broods in the season.

The voice of this species is low and guttural: they are more disposed to quarrel than the Barn Swallows, frequently fighting in the air for a quarter of an hour at a time, particularly in spring, all the while keeping up a low rapid chatter. They also sail more in flying; but during the breeding season frequent the same situations in quest of similar food. They inhabit the northern Atlantic states as far as the district of Maine, where I have myself seen them; and my friend Mr. Gardiner informs me, that they are found on the coast of Long Island and its

* *Hirundo bicolor*, VIEILL. *Ois. de l'Am. Sept.* pl. 31.

neighborhood. About the middle of July I observed many hundreds of these birds sitting on the flat sandy beach near the entrance of Great Egg Harbor. They were also very numerous among the myrtles of these low islands, completely covering some of the bushes. One man told me, that he saw one hundred and two shot at a single discharge. For some time before their departure they subsist principally on the myrtle berries (*Myrica cerifera*) and become extremely fat. They leave us early in September.

This species appears to have remained hitherto undescribed, owing to the misapprehension before mentioned. It is not perhaps quite so numerous as the preceding, and rarely associates with it to breed, never using mud of any kind in the construction of its nest.

The White-bellied Swallow is five inches and three quarters long, and twelve inches in extent; bill and eye black; upper parts a light glossy greenish blue; wings brown black, with slight reflections of green; tail forked, the two exterior feathers being about a quarter of an inch longer than the middle ones, and all of a uniform brown black; lores black; whole lower parts pure white; wings when shut extend about a quarter of an inch beyond the tail; legs naked, short and strong, and, as well as the feet, of a dark purplish flesh color; claws stout.

The female has much less of the greenish gloss than the male, the colors being less brilliant; otherwise alike.

SPECIES IV. *HIRUNDO RIPARIA*.*

BANK SWALLOW, OR SAND MARTIN.

[Plate XXXVIII. Fig. 4.]

LATH. *Syn.* IV., 568-10.—*Arct. Zool.* II., No. 332.—*L'Hirondelle de rivage*, BUFF. VI., 632. *Pl. Enl.* 543, f. 2.—*TURT. Syst.* 629.

THIS appears to be the most sociable with its kind and the least intimate with man, of all our Swallows; living together in large communities of sometimes three or four hundred. On the high sandy bank of a river, quarry, or gravel pit, at a foot or two from the surface, they commonly scratch out holes for their nests, running them in a horizontal direction to the depth of two and sometimes three feet. Several of these holes are often within a few inches of each other, and extend in various strata along the front of the precipice, sometimes for eighty or one hundred yards. At the extremity of this hole a little fine dry grass

* LINN. *Syst.* I., p. 344.—GMEL. *Syst.* I., p. 1019.—LATH. *Ind. Orn.* II., p. 575.

with a few large downy feathers form the bed on which their eggs, generally five in number, and pure white, are deposited. The young are hatched late in May; and here I have taken notice of the common Crow, in parties of four or five, watching at the entrance of these holes, to seize the first straggling young that should make its appearance. From the clouds of Swallows that usually play around these breeding places, they remind one at a distance of a swarm of bees.

The Bank Swallow arrives here earlier than either of the preceding; begins to build in April, and has commonly two broods in the season. Their voice is a low mutter. They are particularly fond of the shores of rivers, and, in several places along the Ohio, they congregate in immense multitudes. We have sometimes several days of cold rain and severe weather after their arrival in spring, from which they take refuge in their holes, clustering together for warmth, and have been frequently found at such times in almost a lifeless state with the cold; which circumstance has contributed to the belief that they lie torpid all winter in these recesses. I have searched hundreds of these holes in the months of December and January, but never found a single Swallow, dead, living, or torpid. I met with this bird in considerable numbers on the shores of the Kentucky river, between Lexington and Danville. They likewise visit the sea shore, in great numbers, previous to their departure, which continues from the last of September to the middle of October.

The Bank Swallow is five inches long, and ten inches in extent; upper parts mouse colored, lower white, with a band of dusky brownish across the upper part of the breast; tail forked, the exterior feather slightly edged with whitish; lores and bill black; legs with a few tufts of downy feathers behind; claws fine pointed and very sharp; over the eye a streak of whitish; lower side of the shafts white; wings and tail darker than the body. The female differs very little from the male.

This bird appears to be in nothing different from the European species; from which circumstance, and its early arrival here, I would conjecture that it passes to a high northern latitude on both continents.

SPECIES V. *HIRUNDO PELASGIA*.*

CHIMNEY SWALLOW.

[Plate XXXIX. Fig. 1.]

LATH. *Syn.* v., p. 583-32.—CATESB. *Car. App.* t. 8.—*Hirondelle de la Caroline*, BUFF. VI., p. 700.—*Hirundo Carolinensis*, BRISS. II., p. 501, 9.—*Aculeated Swallow*, ARCT. Zool. II., No. 335-18.—TURT. *Syst.* p. 630.

THIS species is peculiarly our own; and strongly distinguished from all the rest of our Swallows by its figure, flight, and manners. Of the first of these the representation in the plate will give a correct idea; its other peculiarities shall be detailed as fully as the nature of the subject requires.

This Swallow, like all the rest of its tribe in the United States, is migratory, arriving in Pennsylvania late in April or early in May, and dispersing themselves over the whole country wherever there are vacant chimneys in summer sufficiently high and convenient for their accommodation. In no other situation with us are they observed at present to build. This circumstance naturally suggests the query, Where did these birds construct their nests before the arrival of Europeans in this country, when there were no such places for their accommodation? I would answer probably in the same situations in which they still continue to build in the remote regions of our western forests, where European improvements of this kind are scarcely to be found, namely, in the hollow of a tree, which in some cases has the nearest resemblance to their present choice of any other. One of the first settlers in the state of Kentucky informed me, that he cut down a large hollow beech tree which contained forty or fifty nests of the Chimney Swallow, most of which by the fall of the tree, or by the weather, were lying at the bottom of the hollow, but sufficient fragments remained adhering to the sides of the tree to enable him to number them. They appeared, he said, to be of many years' standing. The present site which they have chosen must however hold out many more advantages than the former, since we see that in the whole thickly settled parts of the United States these birds have uniformly adopted this new convenience; not a single pair being observed to prefer the woods. Security from birds of prey and other animals—from storms that frequently overthrow the timber,

* LINN. *Syst.* I., p. 345.—GMEL. *Syst.* I., p. 1023.—LATH. *Ind. Orn.* II., p. 581.

and the numerous ready conveniences which these new situations afford, are doubtless some of the advantages. The choice they have made certainly bespeaks something more than mere unreasoning instinct, and does honor to their discernment.

The nest of this bird is of singular construction, being formed of very small twigs, fastened together with a strong adhesive glue or gum, which is secreted by two glands, one on each side of the hind head, and mixes with the saliva. With this glue, which becomes hard as the twigs themselves, the whole nest is thickly besmeared. The nest itself is small and shallow, and attached by one side or edge to the wall, and is totally destitute of the soft lining with which the others are so plentifully supplied. The eggs are generally four, and white. They generally have two broods in the season. The young are fed at intervals during the greater part of the night, a fact which I have had frequent opportunities of remarking both here and in the Mississippi territory. The noise which the old ones make in passing up and down the funnel has some resemblance to distant thunder. When heavy and long-continued rains occur, the nest, losing its hold, is precipitated to the bottom. This disaster frequently happens. The eggs are destroyed; but the young, though blind (which they are for a considerable time), sometimes scramble up along the vent, to which they cling like squirrels, the muscularity of their feet and the sharpness of their claws at this tender age being remarkable. In this situation they continue to be fed for perhaps a week or more. Nay, it is not uncommon for them voluntarily to leave the nest long before they are able to fly, and to fix themselves on the wall, where they are fed until able to hunt for themselves.

When these birds first arrive in spring, and for a considerable time after, they associate together every evening in one general rendezvous; those of a whole district roosting together. This place of repose, in the more unsettled parts of the country, is usually a large hollow tree open at top, trees of that kind, or *Swallow trees*, as they are usually called, having been noticed in various parts of the country and generally believed to be the winter quarters of these birds, where, heaps upon heaps, they dozed away the winter in a state of torpidity. Here they have been seen on their resurrection in spring, and here they have again been remarked descending to their death-like sleep in autumn.

Among various accounts of these trees that might be quoted, the following are selected as bearing the marks of authenticity. "At Middlebury, in this state," says Mr. Williams, Hist. of Vermont, p. 16, "there was a large hollow elm, called by the people in the vicinity, the Swallow tree. From a man who for several years lived within twenty rods of it, I procured this information. He always thought the Swallows tarried in the tree through the winter, and avoided cutting it down on that

account. About the first of May the Swallows came out of it in large numbers, about the middle of the day, and soon returned. As the weather grew warmer they came out in the morning with a loud noise, or roar, and were soon dispersed. About half an hour before sundown they returned in millions, circulating two or three times round the tree, and then descending like a stream into a hole about sixty feet from the ground. It was customary for persons in the vicinity to visit this tree to observe the motions of these birds: and when any persons disturbed their operations by striking violently against the tree with their axes, the Swallows would rush out in millions and with a great noise. In November, 1791, the top of this tree was blown down twenty feet below where the Swallows entered. There has been no appearance of the Swallows since. Upon cutting down the remainder an immense quantity of excrements, quills and feathers, were found, but no appearance or relics of any nests.

“Another of these Swallow trees was at Bridport. The man who lived the nearest to it gave this account. The Swallows were first observed to come out of the tree in the spring about the time that the leaves first began to appear on the trees; from that season they came out in the morning about half an hour after sunrise. They rushed out like a stream, as big as the hole in the tree would admit, and ascended in a perpendicular line until they were above the height of the adjacent trees; then assumed a circular motion, performing their evolutions two or three times, but always in a larger circle, and then dispersed in every direction. A little before sundown they returned in immense numbers, forming several circular motions, and then descended like a stream into the hole, from whence they came out in the morning. About the middle of September they were seen entering the tree for the last time. These birds were all of the species called the House or Chimney Swallow. The tree was a large hollow elm; the hole at which they entered was about forty feet above the ground, and about nine inches in diameter. The Swallows made their first appearance in the spring and their last appearance in the fall in the vicinity of this tree; and the neighboring inhabitants had no doubt but that the Swallows continued in it during the winter. A few years ago a hole was cut at the bottom of the tree; from that time the Swallows have been gradually forsaking the tree and have now almost deserted it.”

Though Mr. Williams himself, as he informs us, is led to believe from these and some other particulars which he details, “that the House Swallow in this part of America generally resides during the winter in the hollow of trees; and the Ground Swallows [Bank Swallows] find security in the mud at the bottom of lakes, rivers, and ponds,” yet I cannot in the cases just cited see any sufficient cause for such a belief. The birds were seen to pass out on the first of May or in the spring

when the leaves began to appear on the trees, and about the middle of September they were seen entering the tree for the last time; but there is no information here of their being seen at any time during winter either within or around the tree. This most important part of the matter is taken for granted without the least examination, and, as will be presently shown, without foundation. I shall, I think, also prove that if these trees had been cut down in the depth of winter not a single Swallow would have been found either in a living or a torpid state! And that this was merely a place of rendezvous for *active living birds* is evident from the "immense quantity of excrements" found within it, which birds in a state of *torpidity* are not supposed to produce. The total absence of the relics of nests is a proof that it was not a breeding place, and that the whole was nothing more than one of those places to which this singular bird resorts, immediately on its arrival in May, in which also many of the males continue to roost during the whole summer, and from which they regularly depart about the middle of September. From other circumstances it appears probable that some of these trees have been for ages the summer rendezvous or general roosting place of the whole Chimney Swallows of an extensive district. Of this sort I conceive the following to be one which is thus described by a late traveller to the westward.

Speaking of the curiosities of the state of Ohio the writer observes, "In connection with this I may mention a large collection of feathers found within a hollow tree which I examined with the Rev. Mr. Story, May 18, 1803. It is in the upper part of Waterford, about two miles distant from the Muskingum. A very large sycamore, which through age had decayed and fallen down, contained in its hollow trunk, five and a half feet in diameter, and for nearly fifteen feet upwards, a mass of decayed feathers with a small admixture of brownish dust and the exuviae of various insects. The feathers were so rotten that it was impossible to determine to what kind of birds they belonged. They were less than those of the pigeon; and the largest of them were like the pinion and tail feathers of the Swallow. I examined carefully this astonishing collection in the hope of finding the bones and bills, but could not distinguish any. The tree with some remains of its ancient companions lying around was of a growth preceding that of the neighboring forest. Near it and even out of its mouldering ruins grow thrifty trees of a size which indicate two or three hundred years of age."*

Such are the usual roosting places of the Chimney Swallow in the more thinly settled parts of the country. In towns, however, they are differently situated, and it is matter of curiosity to observe that they frequently select the court-house chimney for their general place of

* Harris's Journal, p. 180.

rendezvous, as being usually more central, and less liable to interruption during the night. I might enumerate many places where this is their practice. Being in the town of Reading, Pennsylvania, in the month of August, I took notice of sixty or eighty of these birds, a little before evening, amusing themselves by ascending and descending the chimney of the court-house there. I was told that in the early part of summer they were far more numerous at that particular spot. On the twentieth of May in returning from an excursion to the Great Pine Swamp, I spent part of the day in the town of Easton, where I was informed by my respected friend Mordecai Churchman, cashier of the bank there, and one of the people called Quakers, that the Chimney Swallows of Easton had selected the like situation; and that from the windows of his house, which stands nearly opposite to the court-house, I might in an hour or two witness their whole manœuvres.

I accepted the invitation with pleasure. Accordingly a short time after sunset the Chimney Swallows, which were generally dispersed about town, began to collect around the court-house, their numbers every moment increasing, till, like motes in the sunbeams, the air seemed full of them. These while they mingled amongst each other seemingly in every direction, uttering their peculiar note with great sprightliness, kept a regular circuitous sweep around the top of the court-house, and about fourteen or fifteen feet above it, revolving with great rapidity for the space of at least ten minutes. There could not be less than four or five hundred of them. They now gradually varied their line of motion until one part of its circumference passed immediately over the chimney and about five or six feet above it. Some as they passed made a slight feint of entering, which was repeated by those immediately after, and by the whole circling multitude in succession; in this feint they approached nearer and nearer at every revolution, dropping perpendicularly, but still passing over; the circle meantime becoming more and more contracted, and the rapidity of its revolution greater as the dusk of evening increased, until at length one, and then another, dropped in, another and another followed, the circle still revolving until the whole multitude had descended except one or two. These flew off as if to collect the stragglers, and in a few seconds returned with six or eight more, which, after one or two rounds, dropped in one by one, and all was silence for the night. It seemed to me hardly possible that the internal surface of the vent could accommodate them all, without clustering on one another, which I am informed they never do; and I was very desirous of observing their ascension in the morning, but having to set off before day, I had not that gratification. Mr. Churchman, however, to whom I have since transmitted a few queries, has been so obliging as to inform me, that towards the beginning of June the number of those that regularly retired to the court-house to roost, was not more than

one-fourth of the former; that on the morning of the twenty-third of June he particularly observed their reascension, which took place at a quarter past four, or twenty minutes before sunrise, and that they passed out in less than three minutes. That at my request the chimney had been examined from above; but that as far down at least as nine feet, it contained no nests; though at a former period it is certain that their nests were very numerous there, so that the chimney was almost choked, and a sweep could with difficulty get up it. But then it was observed that their place of nocturnal retirement was in another quarter of the town. "On the whole," continues Mr. Churchman, "I am of opinion, that those who continue to roost at the court-house are male birds, or such as are not engaged in the business of incubation, as that operation is going on in almost every unoccupied chimney in town. It is reasonable to suppose if they made use of that at the court-house for this purpose, at least some of their nests would appear towards the top, as we find such is the case where but few nests are in a place."

In a subsequent letter Mr. Churchman writes as follows:—"After the young brood produced in the different chimneys in Easton had taken wing, and a week or ten days previous to their total disappearance, they entirely forsook the court-house chimney, and rendezvoused in accumulated numbers in the southernmost chimney of John Ross's mansion, situated perhaps one hundred feet northeastward of the court-house. In this last retreat I several times counted more than two hundred go in of an evening, when I could not perceive a single bird enter the court-house chimney. I was much diverted one evening on seeing a cat, which came upon the roof of the house, and placed herself near the chimney, where she strove to arrest the birds as they entered, without success; she at length ascended to the chimney top and took her station, and the birds descended in gyrations without seeming to regard grimalkin, who made frequent attempts to grab them. I was pleased to see that they all escaped her fangs. About the first week in the ninth month [September] the birds quite disappeared; since which I have not observed a single individual. Though I was not so fortunate as to be present at their general assembly and council when they concluded to take their departure, nor did I see them commence their flight; yet I am fully persuaded that none of them remain in any of our chimneys here. I have had access to Ross's chimney where they last resorted, and could see the lights out from bottom to top, without the least vestige or appearance of any birds. Mary Ross also informed me, that they have had their chimneys swept previous to their making fires, and though late in autumn no birds have been found there. Chimneys also which have not been used have been ascended by sweeps in the winter without discovering any. Indeed all of them are swept every fall and winter, and I have never heard of the Swallows being

found in either a dead, living or torpid state. As to the court-house it has been occupied as a place of worship two or three times a week for several weeks past, and at those times there has been fire in the stoves, the pipes of them both going into the chimney, which is shut up at bottom by brick work: and as the birds had forsaken that place, it remains pretty certain that they did not return there; and if they did the smoke I think would be deleterious to their existence; especially as I never knew them to resort to kitchen chimneys where fire was kept in the summer. I think I have noticed them enter such chimneys for the purpose of exploring; but I have also noticed that they immediately ascended, and went off, on finding fire and smoke."

The Chimney Swallow is easily distinguished in air from the rest of its tribe here, by its long wings, its short body, the quick and slight vibrations of its wings, and its wide, unexpected diving rapidity of flight; shooting swiftly in various directions without any apparent motion of the wings, and uttering the sounds *tsip tsip tsip tsee tsee* in a hurried manner. In roosting, the thorny extremities of its tail are thrown in for its support. It is never seen to alight but in hollow trees or chimneys; is always most gay and active in wet and gloomy weather, and is the earliest abroad in morning, and latest out in evening of all our Swallows. About the first or second week in September, they move off to the south, being often observed on their route accompanied by the Purple Martins.

When we compare the manners of these birds while here with the account given by Capt. Henderson of those that winter in such multitudes at Honduras, it is impossible not to be struck with the resemblance; or to suppress our strong suspicions that they may probably be the very same.

This species is four inches and a half in length, and twelve inches in extent! altogether of a deep sooty brown, except the chin and line over the eye, which are of a dull white; the lores, as in all the rest, are black; bill extremely short, hard and black, nostrils placed in a slightly elevated membrane; legs covered with a loose purplish skin; thighs naked and of the same tint; feet extremely muscular; the three fore toes nearly of a length; claws very sharp; the wing when closed extends an inch and a half beyond the tip of the tail, which is rounded, and consists of *ten* feathers scarcely longer than their coverts; their shafts extend beyond the vanes, are sharp pointed, strong, and very elastic, and of a deep black color; the shafts of the wing quills are also remarkably strong; eye black, surrounded by a bare blackish skin or orbit.

The female can scarcely be distinguished from the male by her plumage.

GENUS XLVII. CAPRIMULGUS. GOATSUCKER.

SPECIES I. *C. CAROLINENSIS*.*

CHUCK-WILL'S-WIDOW.

[Plate LIV. Fig. 2.]

THIS solitary bird is rarely found to the north of James river in Virginia on the sea-board, or of Nashville in the state of Tennessee in the interior; and no instance has come to my knowledge in which it has been seen either in New Jersey, Pennsylvania or Maryland. On my journey south I first met with it between Richmond and Petersburg in Virginia, and also on the banks of the Cumberland in Tennessee.

Mr. Pennant has described this bird under the appellation of the *Short-winged Goatsucker* (Aret. Zool. No. 336), from a specimen which he received from Dr. Garden of Charleston, South Carolina; but in speaking of its manners he confounds it with the Whip-poor-will, though the latter is little more than half the cubic bulk of the former, and its notes altogether different. "In South Carolina," says this writer, speaking of the present species, "it is called, from one of its notes, *Chuck, chuck-will's-widow*; and in the northern provinces *Whip-poor-will*, from the resemblance which another of its notes bears to those words."† He then proceeds to detail the manners of the common Whip-poor-will, by extracts from Dr. Garden and Mr. Kalm, which clearly prove that all of them were personally unacquainted with that bird; and had never seen or examined any other than two of our species, the Short-winged or Chuck-will's-widow, and the Long-winged, or Night Hawk, to both of which they indiscriminately attribute the notes and habits of the Whip-poor-will.

The Chuck-will's-widow, so called from its notes which seem exactly to articulate those words, arrives on the sea coast of Georgia about the middle of March, and in Virginia early in April. It commences its singular call generally in the evening, soon after sunset, and continues it with short occasional interruptions for several hours. Towards morn-

* Gmel. *Syst.* I., p. 1028.—Lath. *Ind. Orn.* II., p. 584.—*Caprimulgus rufus*, Vieill. *Ois. de l'Am. Sept.* Pl. 25, female.

† Aret. Zool. p. 434.

ing these repetitions are renewed, and continue until dawn has fairly appeared. During the day it is altogether silent. This note, or call, instantly attracts the attention of a stranger, and is strikingly different from that of the Whip-poor-will. In sound and articulation it seems plainly to express the words which have been applied to it (*Chuck-will's-widow*), pronouncing each syllable leisurely and distinctly, putting the principal emphasis on the last word. In a still evening it may be heard at the distance of nearly a mile, the tones of its voice being stronger and more full than those of the Whip-poor-will, who utters his with much greater rapidity. In the Chickasaw country, and throughout the whole Mississippi territory, I found the present species very numerous in the months of April and May, keeping up a continued noise during the whole evening, and in moonlight throughout the whole of the night.

The flight of this bird is slow, skimming about at a few feet above the surface of the ground, frequently settling on old logs, or on the fences, and from thence sweeping around in pursuit of various winged insects that fly in the night. Like the Whip-poor-will it prefers the declivities of glens and other deeply shaded places, making the surrounding mountains ring with echoes the whole evening. I several times called the attention of the Chickasaws to the notes of this bird, on which occasions they always assumed a grave and thoughtful aspect; but it appeared to me that they made no distinction between the two species; so that whatever superstitious notions they may entertain of the one are probably applied to both.

This singular genus of birds, formed to subsist on the superabundance of nocturnal insects, are exactly and surprisingly fitted for their peculiar mode of life. Their flight is low, to accommodate itself to their prey; silent, that they may be the better concealed, and sweep upon it unawares; their sight most acute in the dusk, when such insects are abroad; their evolutions something like those of the bat, quick and sudden; their mouths capable of prodigious expansion, to seize with more certainty, and furnished with long branching hairs, or bristles, serving as palisadoes to secure what comes between them. Reposing so much during the heats of day they are much infested with vermin, particularly about the head, and are provided with a comb on the inner edge of the middle claw, with which they are often employed in ridding themselves of these pests, at least when in a state of captivity. Having no weapons of defence except their wings, their chief security is in the solitude of night, and in their color and close retreats by day; the former so much resembling that of dead leaves of various hues as not to be readily distinguished from them even when close at hand.

The Chuck-will's-widow lays its eggs, two in number, on the ground, generally, and I believe always, in the woods; it makes no nest; the eggs are of a dull olive color, sprinkled with darker specks, are about

as large as those of a Pigeon, and exactly oval. Early in September they retire from the United States.

This species is twelve inches long, and twenty-six in extent; bill yellowish, tipped with black; the sides of the mouth are armed with numerous long bristles, strong, tapering, and furnished with finer hairs branching from each; cheeks and chin rust color, specked with black; over the eye extends a line of small whitish spots; head and back very deep brown, powdered with cream, rust and bright ferruginous, and marked with long ragged streaks of black; scapulars broadly spotted with deep black, bordered with cream, and interspersed with whitish; the plumage of that part of the neck which falls over the back is long, something like that of a cock, and streaked with yellowish brown; wing quills barred with black and bright rust; tail rounded, extending about an inch beyond the tips of the wings; it consists of ten feathers, the four middle ones are powdered with various tints of ferruginous, and elegantly marked with fine zigzag lines and large herring-bone figures of black; exterior edges of the three outer feathers barred like the wings; their interior vanes for two-thirds of their length are pure snowy white, marbled with black and ferruginous at the base; this white spreads over the greater part of the three outer feathers near their tips; across the throat is a slight band or mark of whitish; breast black, powdered with rust; belly and vent lighter; legs feathered before nearly to the feet, which are of a dirty purplish flesh color; inner side of the middle claw deeply pectinated.

The female differs chiefly in wanting the pure white on the three exterior tail feathers, these being more of a brownish cast.

mined on. This is sometimes in an open space in the woods, frequently in a ploughed field, or in the corner of a corn-field. The eggs are placed on the bare ground; in all cases on a dry situation, where the color of the leaves, ground, stones or other circumjacent parts of the surface may resemble the general tint of the eggs, and thereby render them less easy to be discovered. The eggs are most commonly two, rather oblong, equally thick at both ends, of a dirty bluish white, and marked with innumerable touches of dark olive brown. To the immediate neighborhood of this spot the male and female confine themselves, roosting on the high trees adjoining, during the greater part of the day, seldom, however, together, and almost always on separate trees. They also sit lengthwise on the branch, fence or limb on which they roost, and never across, like most other birds; this seems occasioned by the shortness and slender form of their legs and feet, which are not at all calculated to grasp the branch with sufficient firmness to balance their bodies.

As soon as incubation commences, the male keeps a most vigilant watch around. He is then more frequently seen playing about in the air over the place, even during the day, mounting by several quick vibrations of the wings, then a few slower, uttering all the while a sharp harsh squeak, till having gained the highest point, he suddenly precipitates himself, head foremost, and with great rapidity, down sixty or eighty feet, wheeling up again as suddenly; at which instant is heard a loud booming sound, very much resembling that produced by blowing strongly into the bung hole of an empty hogshead; and which is doubtless produced by the sudden expansion of his capacious mouth, while he passes through the air, as exhibited in the figure on the plate. He again mounts by alternate quick and leisurely motions of the wings, playing about as he ascends, uttering his usual hoarse squeak, till in a few minutes he again dives with the same impetuosity and violent sound as before. Some are of opinion that this is done to intimidate man or beast from approaching his nest, and he is particularly observed to repeat these divings most frequently around those who come near the spot, sweeping down past them, sometimes so near, and so suddenly, as to startle and alarm them. The same individual is, however, often seen performing these manœuvres over the river, the hill, the meadow and the marsh in the space of a quarter of an hour, and also towards the fall, when he has no nest. This singular habit belongs peculiarly to the male. The female has, indeed, the common hoarse note, and much the same mode of flight: but never precipitates herself in the manner of the male. During the time she is sitting, she will suffer you to approach within a foot or two before she attempts to stir, and when she does, it is in such a fluttering, tumbling manner, and with such appearance of a lame and wounded bird, as nine times in ten to deceive the person, and

induce him to pursue her. This "pious fraud," as the poet Thomson calls it, is kept up until the person is sufficiently removed from the nest, when she immediately mounts and disappears. When the young are first hatched it is difficult to distinguish them from the surface of the ground, their down being of a pale brownish color, and they are altogether destitute of the common shape of birds, sitting so fixed and so squat as to be easily mistaken for a slight prominent mouldiness lying on the ground. I cannot say whether they have two broods in the season; I rather conjecture that they have generally but one.

The Night-hawk is a bird of strong and vigorous flight, and of large volume of wing. It often visits the city, darting and squeaking over the streets at a great height, diving perpendicularly with the same hollow sound as before described. I have also seen them sitting on chimney tops in some of the most busy parts of the city, occasionally uttering their common note.

When the weather happens to be wet and gloomy, the Night-hawks are seen abroad at all times of the day, generally at a considerable height; their favorite time, however, is from two hours before sunset until dusk. At such times they seem all vivacity, darting about in the air in every direction, making frequent short sudden turnings, as if busily engaged in catching insects. Even in the hottest, clearest weather, they are occasionally seen abroad, squeaking at short intervals. They are also often found sitting along the fences, basking themselves in the sun. Near the seashore, in the vicinity of extensive salt marshes, they are likewise very numerous, skimming over the meadows, in the manner of swallows, until it is so dark that the eye can no longer follow them.

When wounded and taken, they attempt to intimidate you by opening their mouth to its utmost stretch, throwing the head forwards, and uttering a kind of guttural whizzing sound, striking also violently with their wings, which seem to be their only offensive weapons; for they never attempt to strike with the bill or claws.

About the middle of August they begin to move off towards the south; at which season they may be seen almost every evening, from five o'clock until after sunset, passing along the Schuylkill and the adjacent shores, in widely scattered multitudes, all steering towards the south. I have counted several hundreds within sight at the same time, dispersed through the air, and darting after insects as they advanced. These occasional processions continue for two or three weeks; none are seen travelling in the opposite direction. Sometimes they are accompanied by at least twice as many Barn Swallows, some Chimney Swallows and Purple Martins. They are also most numerous immediately preceding a northeast storm. At this time also they abound in the extensive meadows on the Schuylkill and Delaware, where I have counted fifteen

skimming over a single field in an evening. On shooting some of these, on the 14th of August, their stomachs were almost exclusively filled with crickets. From one of them I took nearly a common snuff-box full of these insects, all seemingly fresh swallowed.

By the middle or 20th of September very few of these birds are to be seen in Pennsylvania; how far south they go, or at what particular time they pass the southern boundaries of the United States I am unable to say. None of them winter in Georgia.

The ridiculous name *Goatsucker*, which was first bestowed on the European species from a foolish notion that it sucked the teats of the goats, because probably it inhabited the solitary heights where they fed, which nickname has been since applied to the whole genus, I have thought proper to omit. There is something worse than absurd in continuing to brand a whole family of birds with a knavish name, after they are universally known to be innocent of the charge. It is not only unjust, but tends to encourage the belief in an idle fable that is totally destitute of all foundation.

The Night-hawk is nine inches and a half in length, and twenty-three inches in extent; the upper parts are of a very deep blackish brown, unmixed on the primaries, but thickly sprinkled or powdered on the back scapulars and head with innumerable minute spots and streaks of a pale cream color, interspersed with specks of reddish; the scapulars are barred with the same, also the tail coverts and tail, the inner edges of which are barred with white and deep brownish black for an inch and a half from the tip, where they are crossed broadly with a band of white, the two middle ones excepted, which are plain deep brown, barred and sprinkled with light clay; a spot of pure white extends over the five first primaries, the outer edge of the exterior feather excepted, and about the middle of the wing; a triangular spot of white also marks the throat, bending up on each side of the neck; the bill is exceeding small, scarcely one-eighth of an inch in length, and of a black color; the nostrils circular, and surrounded with a prominent rim; eye large and full, of a deep bluish black; the legs are short, feathered a little below the knees, and, as well as the toes, of a purplish flesh color, seamed with white; the middle claw is pectinated on its inner edge, to serve as a comb to clear the bird of vermin; the whole lower parts of the body are marked with transverse lines of dusky and yellowish. The tail is somewhat *shorter* than the wings when shut, is handsomely forked, and consists of ten broad feathers; the mouth is extremely large, and of a reddish flesh color within; *there are no bristles about the bill*; the tongue is very small, and attached to the inner surface of the mouth.

The female measures about nine inches in length and twenty-two in breadth; differs in having no white band on the tail, but has the spot of white on the wing; wants the triangular spot of white on the throat,

instead of which there is a dully defined mark of a reddish cream color ; the wings are nearly black, all the quills being slightly tipped with white ; the tail is as in the male, and minutely tipped with white ; all the scapulars and whole upper parts are powdered with a much lighter gray.

There is no description of the present species in Turton's translation of Linnæus. The characters of the genus given in the same work are also in this case incorrect, viz. "*mouth furnished with a series of bristles—tail not forked,*" the Night-hawk having nothing of the former, and its tail being largely forked.

CAPRIMULGUS VOCIFERUS.*

WHIP-POOR-WILL.

[Plate XLI. Fig. 1, Male. Fig. 2, Female. Fig. 3, Young.]

THIS is a singular and very celebrated species, universally noted over the greater part of the United States for the loud reiterations of his favourite call in spring ; and yet personally he is but little known, most people being unable to distinguish this from the preceding species, when both are placed before them ; and some insisting that they are the same. This being the case, it becomes the duty of his historian to give a full and faithful delineation of his character and peculiarity of manners, that his existence as a distinct and independent species may no longer be doubted, nor his story mingled confusedly with that of another. I trust that those best acquainted with him will bear witness to the fidelity of the portrait.

On or about the twenty-fifth of April, if the season be not uncommonly cold, the Whip-poor-will is first heard in this part of Pennsylvania, in the evening, as the dusk of twilight commences, or in the morning as soon as dawn has broke. In the state of Kentucky I first heard this bird on the fourteenth of April, near the town of Danville. The notes of this solitary bird, from the ideas which are naturally associated with them, seem like the voice of an old friend, and are listened to by almost all with great interest. At first they issue from some retired part of the woods, the glen or mountain ; in a few evenings perhaps we hear them from the adjoining coppice—the garden fence—the road before the door, and even from the roof of the dwelling house, long after the family have retired to rest. Some of the more ignorant and

* *Caprimulgus virginianus*, VIEILL. Ois. de l'Am. Sept. pl. 23.

superstitious consider this near approach as foreboding no good to the family, nothing less than sickness, misfortune or death to some of its members; these visits, however, so often occur without any bad consequences, that this superstitious dread seems on the decline.

He is now a regular acquaintance. Every morning and evening his shrill and rapid repetitions are heard from the adjoining woods, and when two or more are calling out at the same time, as is often the case in the pairing season, and at no great distance from each other, the noise, mingling with the echoes from the mountains, is really surprising. Strangers, in parts of the country where these birds are numerous, find it almost impossible for some time to sleep; while to those long acquainted with them, the sound often serves as a lullaby to assist their repose.

These notes seem pretty plainly to articulate the words which have been generally applied to them, *Whip-poor-will*, the first and last syllables being uttered with great emphasis, and the whole in about a second to each repetition; but when two or more males meet, their whip-poor-will altercations become much more rapid and incessant, as if each were straining to overpower or silence the other. When near, you often hear an introductory *cluck* between the notes. At these times, as well as at almost all others, they fly low, not more than a few feet from the surface, skimming about the house and before the door, alighting on the wood pile, or settling on the roof. Towards midnight they generally become silent, unless in clear moonlight, when they are heard with little intermission till morning. If there be a creek near, with high precipitous bushy banks, they are sure to be found in such situations. During the day they sit in the most retired, solitary and deep shaded parts of the woods, generally on high ground, where they repose in silence. When disturbed they rise within a few feet, sail low and slowly through the woods for thirty or forty yards, and generally settle on a low branch or on the ground. Their sight appears deficient during the day, as, like Owls, they seem then to want that vivacity for which they are distinguished in the morning and evening twilight. They are rarely shot at, or molested; and from being thus transiently seen in the obscurity of dusk, or in the deep umbrage of the woods, no wonder their particular markings of plumage should be so little known, or that they should be confounded with the Night-hawk, whom in general appearance they so much resemble. The female begins to lay about the second week in May, selecting for this purpose the most unfrequented part of the wood, often where some brush, old logs, heaps of leaves, &c., had been lying, and always on a dry situation. The eggs are deposited on the ground, or on the leaves, not the slightest appearance of a nest being visible. These are usually two in number, in shape much resembling those of the Night-hawk, but having the ground color much darker, and more thickly

marbled with dark olive. The precise period of incubation I am unable to say.

In traversing the woods one day, in the early part of June, along the brow of a rocky declivity, a *Whip-poor-will* rose from my feet and fluttered along, sometimes prostrating herself and beating the ground with her wings, as if just expiring. Aware of her purpose, I stood still and began to examine the space immediately around me for the eggs or young, one or the other of which I was certain must be near. After a long search, to my mortification, I could find neither; and was just going to abandon the spot, when I perceived somewhat like a slight mouldiness among the withered leaves, and on stooping down discovered it to be a young Whip-poor-will, seemingly asleep, as its eye-lids were nearly closed; or perhaps this might only be to protect its tender eyes from the glare of day. I sat down by it on the leaves, and drew it as it then appeared (see fig. 3). It was probably not a week old. All the while I was thus engaged it neither moved its body, nor opened its eyes more than half; and I left it as I found it. After I had walked about a quarter of a mile from the spot, recollecting that I had left a pencil behind, I returned and found my pencil, but the young bird was gone.

Early in June, as soon as the young appear, the notes of the male usually cease, or are heard but rarely. Towards the latter part of summer, a short time before these birds leave us, they are again occasionally heard; but their call is then not so loud—much less emphatical, and more interrupted than in spring. Early in September they move off towards the south.

The favorite places of resort for these birds are on high dry situations; in low marshy tracts of country they are seldom heard. It is probably on this account that they are scarce on the seacoast and its immediate neighborhood; while towards the mountains they are very numerous. The Night-hawks, on the contrary, delight in these extensive sea marshes; and are much more numerous there than in the interior and higher parts of the country. But nowhere in the United States have I found the Whip-poor-will in such numbers as in that tract of country in the state of Kentucky called the Barrens. This appears to be their most congenial climate and place of residence. There, from the middle of April to the first of June, as soon as the evening twilight draws on, the shrill and confused clamors of these birds are incessant, and very surprising to a stranger. They soon, however, become extremely agreeable, the inhabitants lie down at night lulled by their whistlings; and the first approach of dawn is announced by a general and lively chorus of the same music; while the full-toned *tooting*, as it is called, of the Pinnated Grouse, forms a very pleasing bass to the whole.

I shall not, in the manner of some, attempt to amuse the reader with a repetition of the unintelligible names given to this bird by the Indians; or the superstitious notions generally entertained of it by the same people. These seem as various as the tribes, or even families with which you converse; scarcely two of them will tell you the same story. It is easy however to observe, that this, like the Owl and other nocturnal birds, is held by them in a kind of suspicious awe, as a bird with which they wish to have as little to do as possible. The superstition of the Indian differs very little from that of an illiterate German, a Scots Highlander, or the less informed of any other nation. It suggests ten thousand fantastic notions to each, and these, instead of being recorded with all the punctilio of the most important truths, seem only fit to be forgotten. Whatever, among either of these people, is strange and not comprehended, is usually attributed to supernatural agency; and an unexpected sight, or uncommon incident, is often ominous of good, but more generally of bad fortune, to the parties. Night, to minds of this complexion, brings with it its kindred horrors, its apparitions, strange sounds and awful sights; and this solitary and inoffensive bird being a frequent wanderer in these hours of ghosts and hobgoblins, is considered by the Indians, as being by habit and repute little better than one of them. All those people, however, are not so credulous: I have conversed with Indians who treated these silly notions with contempt.

The Whip-poor-will is never seen during the day, unless in circumstances such as have been described. Their food appears to be large moths, grasshoppers, pismires, and such insects as frequent the bark of old rotten and decaying timber. They are also expert in darting after winged insects. They will sometimes skim in the dusk, within a few feet of a person, uttering a kind of low chatter as they pass. In their migrations north, and on their return, they probably stop a day or two at some of their former stages, and do not advance in one continued flight. The Whip-poor-will was first heard this season on the second day of May in a corner of Mr. Bartram's woods, not far from the house, and for two or three mornings after in the same place, where I also saw it. From this time until the beginning of September there were none of these birds to be found, within at least one mile of the place; though I frequently made search for them. On the fourth of September the Whip-poor-will was again heard for two evenings, successively, in the same part of the woods. I also heard several of them passing, within the same week, between dusk and nine o'clock at night, it being then clear moonlight. These repeated their notes three or four times, and were heard no more. It is highly probable that they migrate during the evening and night.

The Whip-poor-will is nine inches and a half long, and nineteen inches

in extent; the bill is blackish, a full quarter of an inch long, much stronger than that of the Night-hawk, and bent a little at the point, the under mandible arched a little upwards, following the curvature of the upper; the nostrils are prominent and tubular, their openings directed forward; the mouth is extravagantly large, of a pale flesh color within, and beset along the sides with a number of long thick elastic bristles, the longest of which extends more than half an inch beyond the point of the bill, end in fine hair, and curve inwards; these seem to serve as feelers; and prevent the escape of winged insects: the eyes are very large, full, and bluish black; the plumage above is so variegated with black, pale cream, brown, and rust color, sprinkled and powdered in such minute streaks and spots, as to defy description; the upper part of the head is of a light brownish gray, marked with a longitudinal streak of black, with others radiating from it; the back is darker, finely streaked with a less deep black; the scapulars are very light whitish ochre, beautifully variegated with two or three oblique streaks of very deep black; the tail is rounded, consisting of ten feathers, the exterior one an inch and a quarter shorter than the middle ones, the three outer feathers on each side are blackish brown for half their length, thence pure white to the tips, the exterior one is edged with deep brown nearly to the tip; the deep brown of these feathers is regularly studded with light brown spots; the four middle ones are without the white at the ends, but beautifully marked with herring-bone figures of black and light ochre finely powdered; cheeks and sides of the head of a brown orange or burnt color; the wings, when shut, reach scarcely to the middle of the tail, and are elegantly spotted with very light and dark brown, but are entirely without the large spot of white which distinguishes those of the Night-hawk; chin black, streaked with brown; a narrow semicircle of white passes across the throat; breast and belly irregularly mottled and streaked with black and yellow ochre; the legs and feet are of a light purplish flesh color, seamed with white; the former feathered before, nearly to the feet; the two exterior toes are joined to the middle one as far as the first joint by a broad membrane; the inner edge of the middle claw is pectinated, and from the circumstance of its being frequently found with small portions of down adhering to the teeth, is probably employed as a comb to rid the plumage of its head of vermin, this being the principal and almost only part so infested in all birds.

The female is about an inch less in length and in extent; the bill, mustaches, nostrils, &c., as in the male. She differs in being much lighter on the upper parts, seeming as if powdered with grains of meal; and instead of the white on the three lateral tail feathers, has them tipped for about three-quarters of an inch with a cream color; the bar across the throat is also of a brownish ochre; the cheeks and region of

the eyes are brighter brownish orange, which passes also to the neck, and is sprinkled with black and specks of white; the streak over the eye is also lighter.

The young was altogether covered with fine down of a pale brown color; the shafts or rather sheaths of the quills bluish; the point of the bill just perceptible.

Twenty species of this singular genus are now known to naturalists; of these one only belongs to Europe, one to Africa, one to New Holland, two to India, and fifteen to America.

The present species, though it approaches nearer in its plumage to that of Europe than any other of the tribe, differs from it in being entirely without the large spot of white on the wing; and in being considerably less. Its voice, and particular call, are also entirely different.

Farther to illustrate the history of this bird, the following notes are added, made at the time of dissection. Body, when stripped of the skin, less than that of the Wood Thrush; breast bone one inch in length; second stomach strongly muscular, filled with fragments of pismires and grasshoppers; skin of the bird loose, wrinkly and scarcely attached to the flesh; flesh also loose, extremely tender; bones thin and slender; sinews and muscles of the wing feeble; distance between the tips of both mandibles, when expanded, full two inches, length of the opening one inch and a half, breadth one inch and a quarter; tongue very short, attached to the skin of the mouth, its internal part or *os hyoides* pass up the hind head, and reach to the front, like those of the Woodpecker; which enables the bird to revert the lower part of the mouth in the act of seizing insects and in calling; skull extremely light and thin, being semi-transparent, its cavity nearly half occupied by the eyes; aperture for the brain very small, the quantity not exceeding that of a Sparrow; an Owl of the same extent of wing has at least ten times as much.

Though this noted bird has been so frequently mentioned by name, and its manners taken notice of by almost every naturalist who has written on our birds, yet *personally* it has never yet been described by any writer with whose works I am acquainted. Extraordinary as this may seem, it is nevertheless true; and in proof I offer the following facts.

Three species only of this genus are found within the United States, the *Chuck-will's-widow*, the *Night-hawk*, and the *Whip-poor-will*. Catesby, in the eighth plate of his *Natural History of Carolina*, has figured the first, and in the sixteenth of his *Appendix* the second; to this he has added particulars of the Whip-poor-will, believing it to be that bird, and has ornamented his figure of the *Night-hawk* with a large bearded appendage, of which in nature it is entirely destitute. After

him Mr. Edwards, in his sixty-third plate, has in like manner figured the Night-hawk, also adding the bristles, and calling his figure the *Whip-poor-will*, accompanying it with particulars of the notes, &c., of that bird, chiefly copied from Catesby. The next writer of eminence who has spoken of the Whip-poor-will is Mr. Pennant, justly considered as one of the most judicious and discriminating of English naturalists; but, deceived by "the lights he had," he has in his account of the Short-winged Goatsucker* (*Arct. Zool. p. 434*), given the size, markings of plumage, &c., of the *Chuck-will's-widow*; and in the succeeding account of his Long-winged Goatsucker, describes pretty accurately the Night-hawk. Both of these birds he considers to be the Whip-poor-will, and as having the same notes and manners.

After such authorities it was less to be wondered at that many of our own citizens and some of our naturalists and writers should fall into the like mistake; as copies of the works of those English naturalists are to be found in several of our colleges, and in some of our public as well as private libraries. The means which the author of *American Ornithology* took to satisfy his own mind, and those of his friends, on this subject, were detailed at large, in a paper published about two years ago, in a periodical work of this city, with which extract I shall close my account of the present species.

"On the question is the Whip-poor-will and the Night-hawk one and the same bird, or are they really two distinct species, there has long been an opposition of sentiment, and many fruitless disputes. Numbers of sensible and observing people, whose intelligence and long residence in the country entitle their opinion to respect, positively assert that the Night-hawk and the Whip-poor-will are very different birds, and do not even associate together. The naturalists of Europe, however, have generally considered the two names as applicable to one and the same species; and this opinion has also been adopted by two of our most distinguished naturalists, Mr. William Bartram, of Kingsessing,† and Professor Barton, of Philadelphia.‡ The writer of this, being determined to ascertain the truth by examining for himself, took the following effectual mode of settling this disputed point, the particulars of which he now submits to those interested in the question.

"Thirteen of those birds usually called Night-hawks, which dart about in the air like Swallows, and sometimes descend with rapidity from a great height, making a hollow sounding noise like that produced

* The figure is by mistake called the *Long-winged Goatsucker*. See *Arctic Zoology*, vol. II., pl. 18.

† *Caprimulgus Americanus*, Night-hawk or Whip-poor-will. *Travels*, p. 292.

‡ *Caprimulgus Virginianus*, Whip-poor-will or Night-hawk. *Fragments of the Natural History of Pennsylvania*, p. 3. See also *Amer. Phil. Trans.* vol. IV., p. 208, 209, note

by blowing into the bung-hole of an empty hog'shead, were shot at different times, and in different places, and accurately examined both outwardly and by dissection. Nine of these were found to be males, and four females. The former all corresponded in the markings and tints of their plumage; the latter also agreed in their marks, differing slightly from the males, though evidently of the same species. Two others were shot as they rose from the nests, or rather from the eggs, which in both cases were two in number, lying on the open ground. These also agreed in the markings of their plumage with the four preceding; and on dissection were found to be females. The eggs were also secured. A Whip-poor-will was shot in the evening, while in the act of repeating his usual and well known notes. This bird was found to be a male, differing in many remarkable particulars from all the former. Three others were shot at different times during the day, in solitary and dark shaded parts of the woods. Two of these were found to be females, one of which had been sitting on two eggs. The two females resembled each other almost exactly; the male also corresponded in its markings with the one first found; and all four were evidently of one species. The eggs differed from the former both in color and markings.

"The differences between these two birds were as follow: the sides of the mouth in both sexes of the Whip-poor-will were beset with ranges of long and very strong bristles, extending more than half an inch beyond the point of the bill; both sexes of the Night-hawk were entirely destitute of bristles. The bill of the Whip-poor-will was also more than twice the length of that of the Night-hawk. The long wing quills, of both sexes of the Night-hawk, were of a deep brownish black, with a large spot of white nearly in their middle; and when shut the tips of the wings extended a little *beyond* the tail. The wing quills of the Whip-poor-will, of both sexes, were beautifully spotted with light brown, had no spot of white on them, and when shut the tips of the wings did not reach to the tip of the tail by at least *two* inches. The tail of the Night-hawk was handsomely *forked*, the exterior feathers being the longest, shortening gradually to the middle ones; the tail of the Whip-poor-will was *rounded*, the exterior feathers being the shortest, lengthening gradually to the middle ones.

"After a careful examination of these and several other remarkable differences, it was impossible to withstand the conviction that these birds belonged to two distinct species of the same genus, differing in size, color, and conformation of parts.

"A statement of the principal of these facts having been laid before Mr. Bartram, together with a male and female of each of the above-mentioned species, and also a male of the Great Virginian Bat, or *Chuck-will's-widow*, after a particular examination that venerable natu-

ralist was pleased to declare himself fully satisfied; adding that he had now no doubt of the Night-hawk and the Whip-poor-will being two very distinct species of *Caprimulgus*.

"It is not the intention of the writer of this to enter at present into a description of either the plumage, manners, migrations, or economy of these birds, the range of country they inhabit, or the superstitious notions entertained of them; his only object at present is the correction of an error, which, from the respectability of those by whom it was unwarily adopted, has been but too extensively disseminated, and received by too many as a truth."

ORDER IV. COLUMBÆ. COLUMBINE.

GENUS XLVIII. COLUMBA. PIGEON.

SPECIES I. *C. MIGRATORIA*.

PASSENGER PIGEON.

[Plate XLIV. Fig. 1.]

CATESB. I., 23.—LINN. *Syst.* 285.—TURTON, 479.—*Arct. Zool.* p. 322, No. 187.
—BRISSON, I., 100.—BUFF. II., 527.*

THIS remarkable bird merits a distinguished place in the annals of our feathered tribes; a claim to which I shall endeavor to do justice; and though it would be impossible, in the bounds allotted to this account, to relate all I have seen and heard of this species, yet no circumstance shall be omitted with which I am acquainted (however extraordinary some of these may appear), that may tend to illustrate its history.

The Wild Pigeon of the United States inhabits a wide and extensive region of North America, on this side of the Great Stony Mountains, beyond which to the westward, I have not heard of their being seen. According to Mr. Hutchins, they abound in the country round Hudson's Bay, where they usually remain as late as December, feeding, when the ground is covered with snow, on the buds of juniper. They spread over the whole of Canada—were seen by Captain Lewis and his party near the Great Falls of the Missouri, upwards of two thousand five hundred miles from its mouth, reckoning the meanderings of the river—were also met with in the interior of Louisiana, by Colonel Pike; and extend their range as far south as the Gulf of Mexico; occasionally visiting or breeding in almost every quarter of the United States.

* *Columba migratoria*, LATH. *Ind. Orn.* p. 612, No. 70.

But the most remarkable characteristic of these birds is their associating together, both in their migrations, and also during the period of incubation, in such prodigious numbers as almost to surpass belief; and which has no parallel among any other of the feathered tribes, on the face of the earth, with which naturalists are acquainted.

These migrations appear to be undertaken rather in quest of food, than merely to avoid the cold of the climate, since we find them lingering in the northern regions around Hudson's Bay so late as December; and since their appearance is so casual and irregular; sometimes not visiting certain districts for several years in any considerable numbers, while at other times they are innumerable. I have witnessed these migrations in the Genesee country—often in Pennsylvania, and also in various parts of Virginia, with amazement; but all that I had then seen of them were mere straggling parties, when compared with the congregated millions which I have since beheld in our western forests, in the states of Ohio, Kentucky, and the Indiana territory. These fertile and extensive regions abound with the nutritious beech nut, which constitutes the chief food of the Wild Pigeon. In seasons when these nuts are abundant, corresponding multitudes of Pigeons may be confidently expected. It sometimes happens that having consumed the whole produce of the beech trees in an extensive district they discover another at the distance perhaps of sixty or eighty miles, to which they regularly repair every morning, and return as regularly in the course of the day, or in the evening, to their place of general rendezvous, or as it is usually called the *roosting place*. These roosting places are always in the woods, and sometimes occupy a large extent of forest. When they have frequented one of these places for some time, the appearance it exhibits is surprising. The ground is covered to the depth of several inches with their dung; all the tender grass and underwood destroyed; the surface strewn with large limbs of trees broken down by the weight of the birds clustering one above another; and the trees themselves, for thousands of acres, killed as completely as if girdled with an axe. The marks of this desolation remain for many years on the spot; and numerous places could be pointed out where for several years after, scarce a single vegetable made its appearance.

When these roosts are first discovered, the inhabitants from considerable distances visit them in the night, with guns, clubs, long poles, pots of sulphur, and various other engines of destruction. In a few hours they fill many sacks, and load their horses with them. By the Indians, a Pigeon roost, or breeding place, is considered an important source of national profit and dependence for that season; and all their active ingenuity is exercised on the occasion. The *breeding place* differs from the former in its greater extent. In the western countries above mentioned, these are generally in beech woods, and often extend in nearly

a straight line across the country for a great way. Not far from Shelbyville in the state of Kentucky, about five years ago, there was one of these breeding places, which stretched through the woods in nearly a north and south direction, was several miles in breadth, and was said to be upwards of forty miles in extent! In this tract almost every tree was furnished with nests, wherever the branches could accommodate them. The Pigeons made their first appearance there about the tenth of April, and left it altogether, with their young, before the twenty-fifth of May.

As soon as the young were fully grown, and before they left the nests, numerous parties of the inhabitants, from all parts of the adjacent country, came with wagons, axes, beds, cooking utensils, many of them accompanied by the greater part of their families, and encamped for several days at this immense nursery. Several of them informed me, that the noise in the woods was so great as to terrify their horses, and that it was difficult for one person to hear another speak without bawling in his ear. The ground was strewn with broken limbs of trees, eggs, and squab Pigeons, which had been precipitated from above, and on which herds of hogs were fattening. Hawks, Buzzards, and Eagles, were sailing about in great numbers, and seizing the squabs from their nests at pleasure; while from twenty feet upwards to the tops of the trees the view through the woods presented a perpetual tumult of crowding and fluttering multitudes of Pigeons, their wings roaring like thunder; mingled with the frequent crash of falling timber; for now the axe-men were at work cutting down those trees that seemed to be most crowded with nests; and contrived to fell them in such a manner, that in their descent they might bring down several others; by which means the falling of one large tree sometimes produced two hundred squabs, little inferior in size to the old ones, and almost one mass of fat. On some single trees upwards of one hundred nests were found, each containing *one* young only, a circumstance in the history of this bird not generally known to naturalists. It was dangerous to walk under these flying and fluttering millions, from the frequent fall of large branches, broken down by the weight of the multitudes above, and which in their descent often destroyed numbers of the birds themselves; while the clothes of those engaged in traversing the woods were completely covered with the excrements of the Pigeons.

These circumstances were related to me by many of the most respectable part of the community in that quarter; and were confirmed in part by what I myself witnessed. I passed for several miles through this same breeding place, where every tree was spotted with nests, the remains of those above described. In many instances, I counted upwards of ninety nests on a single tree; but the Pigeons had abandoned this place for another, sixty or eighty miles off, towards Green

river, where they were said at that time to be equally numerous. From the great numbers that were constantly passing over head, to or from that quarter, I had no doubt of the truth of this statement. The mast had been chiefly consumed in Kentucky, and the Pigeons, every morning, a little before sunrise, set out for the Indiana territory, the nearest part of which was about sixty miles distant. Many of these returned before ten o'clock, and the great body generally appeared on their return a little after noon.

I had left the public road, to visit the remains of the breeding place near Shelbyville, and was traversing the woods with my gun, in my way to Frankfort, when about one o'clock the Pigeons, which I had observed flying the greater part of the morning northerly, began to return in such immense numbers as I never before had witnessed. Coming to an opening by the side of a creek called the Benson, where I had a more uninterrupted view, I was astonished at their appearance. They were flying with great steadiness and rapidity, at a height beyond gunshot, in several strata deep, and so close together, that could shot have reached them, one discharge could not have failed of bringing down several individuals. From right to left as far as the eye could reach, the breadth of this vast procession extended; seeming everywhere equally crowded. Curious to determine how long this appearance would continue, I took out my watch to note the time, and sat down to observe them. It was then half past one. I sat for more than an hour, but instead of a diminution of this prodigious procession, it seemed rather to increase both in numbers and rapidity; and, anxious to reach Frankfort before night, I rose and went on. About four o'clock in the afternoon I crossed the Kentucky river, at the town of Frankfort, at which time the living torrent above my head seemed as numerous and as extensive as ever. Long after this I observed them, in large bodies that continued to pass for six or eight minutes, and these again were followed by other detached bodies, all moving in the same south-east direction, till after six in the evening. The great breadth of front which this mighty multitude preserved, would seem to intimate a corresponding breadth of their breeding place, which by several gentlemen who had lately passed through part of it, was stated to me at *several* miles. It was said to be in Green county, and that the young began to fly about the middle of March. On the seventeenth of April, forty-nine miles beyond Danville, and not far from Green river, I crossed this same breeding place, where the nests for more than three miles spotted every tree; the leaves not being yet out, I had a fair prospect of them, and was really astonished at their numbers. A few bodies of Pigeons lingered yet in different parts of the woods, the roaring of whose wings was heard in various quarters around me.

All accounts agree in stating, that each nest contains only one

young.* This is so extremely fat, that the Indians, and many of the whites, are accustomed to melt down the fat for domestic purposes as a substitute for butter and lard. At the time they leave the nest they are nearly as heavy as the old ones; but become much leaner after they are turned out to shift for themselves.

It is universally asserted in the western countries, that the Pigeons, though they have only one young at a time, breed thrice, and sometimes four times, in the same season; the circumstances already mentioned render this highly probable. It is also worthy of observation, that this takes place during that period when acorns, beech nuts, &c., are scattered about in the greatest abundance, and mellowed by the frost. But they are not confined to these alone; buckwheat, hempseed, Indian corn, hollyberries, hackberries, huckleberries, and many others furnished them with abundance at almost all seasons. The acorns of the live oak are also eagerly sought after by these birds, and rice has been frequently found in individuals killed many hundred miles to the northward of the nearest rice plantation. The vast quantity of mast which these multitudes consume, is a serious loss to the bears, pigs, squirrels and other dependants on the fruits of the forest. I have taken from the crop of a single Wild Pigeon, a good handful of the kernels of beech nuts, intermixed with acorns and chestnuts. To form a rough estimate of the daily consumption of one of these immense flocks, let us first attempt to calculate the numbers of that above mentioned, as seen in passing between Frankfort and the Indiana territory. If we suppose this column to have been one mile in breadth (and I believe it to have been much more), and that it moved at the rate of one mile in a minute; four hours, the time it continued passing, would make its whole length two hundred and forty miles. Again supposing that each square yard of this moving body comprehended three Pigeons, the square yards in the whole space, multiplied by three, would give two thousand two hundred and thirty millions, two hundred and seventy-two thousand pigeons! An almost inconceivable multitude, and yet probably far below the actual amount. Computing each of these to consume half a pint of mast daily, the whole quantity at this rate, would equal seventeen millions four hundred and twenty-four thousand bushels per day! Heaven has wisely and graciously given to these birds rapidity of flight, and a disposition to range over vast uncultivated tracts of the earth; otherwise they must have perished in the districts where they resided, or devoured up the whole productions of agriculture, as well as those of the forests.

* It seems probable that our author was misinformed on this head, as it has been stated to us that the Passenger Pigeon, in common with all the other known species of the genus *Columba*, lays two eggs.

A few observations on the mode of flight of these birds must not be omitted. The appearance of large detached bodies of them in the air, and the various evolutions they display, are strikingly picturesque and interesting. In descending the Ohio, by myself, in the month of February, I often rested on my oars to contemplate their aerial manœuvres. A column, eight or ten miles in length, would appear from Kentucky, high in air, steering across to Indiana. The leaders of this great body would sometimes gradually vary their course, until it formed a large bend of more than a mile in diameter, those behind tracing the exact route of their predecessors. This would continue sometimes long after both extremities were beyond the reach of sight, so that the whole, with its glittery undulations, marked a space on the face of the heavens resembling the windings of a vast and majestic river. When this bend became very great, the birds, as if sensible of the unnecessary circuitous course they were taking, suddenly changed their direction, so that what was in column before became an immense front, straightening all its indentures, until it swept the heavens in one vast and infinitely extended line. Other lesser bodies also united with each other, as they happened to approach, with such ease and elegance of evolution, forming new figures, and varying these as they united or separated, that I was never tired of contemplating them. Sometimes a Hawk would make a sweep on a particular part of the column, from a great height, when almost as quick as lightning, that part shot downwards out of the common track, but soon rising again, continued advancing at the same height as before; this inflection was continued by those behind, who on arriving at this point, dived down almost perpendicularly, to a great depth, and rising followed the exact path of those that went before. As these vast bodies passed over the river near me, the surface of the water, which was before smooth as glass, appeared marked with innumerable dimples, occasioned by the dropping of their dung, resembling the commencement of a shower of large drops of rain or hail.

Happening to go ashore one charming afternoon, to purchase some milk at a house that stood near the river, and while talking with the people within doors, I was suddenly struck with astonishment at a loud rushing roar, succeeded by instant darkness, which, on the first moment, I took for a tornado about to overwhelm the house, and everything around, in destruction. The people observing my surprise, coolly said, "It is only the Pigeons;" and on running out I beheld a flock, thirty or forty yards in width, sweeping along very low, between the house and the mountain or height that formed the second bank of the river. These continued passing for more than a quarter of an hour, and at length varied their bearing so as to pass over the mountain, behind which they disappeared before the rear came up.

In the Atlantic States, though they never appear in such unparal-

leled multitudes, they are sometimes very numerous; and great havoc is then made amongst them with the gun, the clap-net, and various other implements of destruction. As soon as it is ascertained in a town that the Pigeons are flying numerously in the neighborhood, the gunners rise *en masse*; the clap-nets are spread out on suitable situations, commonly on an open height, in an old buckwheat field; four or five live Pigeons, with their eyelids sewed up, are fastened on a movable stick—a small hut of branches is fitted up for the fowler at the distance of forty or fifty yards; by the pulling of a string, the stick on which the Pigeons rest is alternately elevated and depressed, which produces a fluttering of their wings similar to that of birds just alighting; this being perceived by the passing flocks, they descend with great rapidity, and finding corn, buckwheat, &c., strewed about, begin to feed, and are instantly, by the pulling of a cord, covered with the net. In this manner ten, twenty, and even thirty dozen, have been caught at one sweep. Meantime the air is darkened with large bodies of them moving in various directions; the woods also swarm with them in search of acorns; and the thundering of musketry is perpetual on all sides from morning to night. Wagon-loads of them are poured into market, where they sell from fifty to twenty-five and even twelve cents per dozen; and Pigeons become the order of the day at dinner, breakfast and supper, until the very name becomes sickening. When they have been kept alive, and fed for some time on corn and buckwheat, their flesh acquires great superiority; but in their common state they are dry and blackish, and far inferior to the full grown young ones, or squabs.

The nest of the Wild Pigeon is formed of a few dry slender twigs, carelessly put together, and with so little concavity, that the young one, when half grown, can easily be seen from below. The eggs are pure white. Great numbers of Hawks, and sometimes the Bald Eagle himself, hover about those breeding places, and seize the old or the young from the nest amidst the rising multitudes, and with the most daring effrontery. The young, when beginning to fly, confine themselves to the under part of the tall woods where there is no brush, and where nuts and acorns are abundant, searching among the leaves for mast, and appear like a prodigious torrent rolling along through the woods, every one striving to be in the front. Vast numbers of them are shot while in this situation. A person told me, that he once rode furiously into one of these rolling multitudes, and picked up thirteen Pigeons, which had been trampled to death by his horse's feet. In a few minutes they will beat the whole nuts from a tree with their wings; while all is a scramble, both above and below, for the same. They have the same cooing notes common to domestic Pigeons; but much less of their gesticulations. In some flocks you will find nothing but young ones, which are easily distinguishable by their motley dress. In others they will be

mostly females; and again great multitudes of males, with few or no females. I cannot account for this in any other way than that during the time of incubation the males are exclusively engaged in procuring food, both for themselves and their mates; and the young being unable yet to undertake these extensive excursions, associate together accordingly. But even in winter I know of several species of birds who separate in this manner, particularly the Red-winged Starling, among whom thousands of old males may be found, with few or no young or females along with them.

Stragglers from these immense armies settle in almost every part of the country, particularly among the beech woods, and in the pine and hemlock woods of the eastern and northern parts of the continent. Mr. Pennant informs us, that they breed near Moose Fort at Hudson's Bay, in N. lat. 51°, and I myself have seen the remains of a large breeding place as far south as the country of the Choctaws, in lat. 32°. In the former of these places they are said to remain until December; from which circumstance it is evident that they are not regular in their migrations, like many other species, but rove about, as scarcity of food urges them. Every spring, however, as well as fall, more or less of them are seen in the neighborhood of Philadelphia; but it is only once in several years that they appear in such formidable bodies; and this commonly when the snows are heavy to the north, the winter here more than usually mild, and acorns, &c., abundant.

The Passenger Pigeon is sixteen inches long, and twenty-four inches in extent; bill black; nostril covered by a high rounding protuberance; eye brilliant fiery orange; orbit, or space surrounding it, purplish flesh-colored skin: head, upper part of the neck, and chin, a fine slate blue, lightest on the chin; throat, breast and sides, as far as the thighs, a reddish hazel; lower part of the neck and sides of the same resplendent changeable gold, green and purplish crimson, the latter most predominant; the ground color slate; the plumage of this part is of a peculiar structure, ragged at the ends; belly and vent white; lower part of the breast fading into a pale vinaceous red; thighs the same, legs and feet lake, seamed with white; back, rump and tail-coverts, dark slate, spotted on the shoulders with a few scattered marks of black; the scapulars tinged with brown; greater coverts light slate; primaries and secondaries dull black, the former tipped and edged with brownish white; tail long, and greatly cuneiform, all the feathers tapering towards the point, the two middle ones plain deep black, the other five, on each side, hoary white, lightest near the tips, deepening into bluish near the bases, where each is crossed on the inner vane with a broad spot of black, and nearer the root with another of ferruginous; primaries edged with white; bastard wing black.

The female is about half an inch shorter, and an inch less in extent;

breast cinereous brown; upper part of the neck inclining to ash; the spot of changeable gold green and carmine much less, and not so brilliant, tail-coverts brownish slate; naked orbits slate colored; in all other respects like the male in color, but less vivid, and more tinged with brown; the eye not so brilliant an orange. In both, the tail has only twelve feathers.

SPECIES II. *COLUMBA CAROLINENSIS*.

CAROLINA PIGEON, OR TURTLE DOVE.

[Plate XLIII. Fig. 1.]

LINN. *Syst.* 286.—CATESB. *Car.* 1, 24.—BUFF. II., 557. *Pl. Enl.* 175.—*La Tourterelle de la Caroline*, BRISSON, I., 110.—TURTON, 479.—*Arct. Zool.* II., No. 188.*

THIS is a favorite bird with all those who love to wander among our woods in spring, and listen to their varied harmony. They will there hear many a singular and sprightly performer; but none so mournful as this. The hopeless woe of settled sorrow, swelling the heart of female innocence itself, could not assume tones more sad, more tender and affecting. Its notes are four; the first is somewhat the highest, and preparatory, seeming to be uttered with an inspiration of the breath, as if the afflicted creature were just recovering its voice from the last convulsive sobs of distress; this is followed by three long, deep and mournful moanings, that no person of sensibility can listen to without sympathy. A pause of a few minutes ensues; and again the solemn voice of sorrow is renewed as before. This is generally heard in the deepest shaded parts of the woods, frequently about noon, and towards the evening.

There is, however, nothing of real distress in all this; quite the reverse. The bird who utters it wantons by the side of his beloved partner, or invites her by his call to some favorite retired and shady retreat. It is the voice of love, of faithful connubial affection, for which the whole family of Doves are so celebrated; and among them all none more deservingly so than the species now before us.

The Turtle Dove is a general inhabitant, in summer, of the United States, from Canada to Florida, and from the sea-coast to the Mississippi, and far to the westward. They are, however, partially migratory in the Northern and Middle States; and collect together in North and

* *Columba Carolinensis*, LATH. *Ind. Orn.*, p. 613, No. 71. *C. Canadensis*? Id. ib. No. 72.

South Carolina, and their corresponding parallels, in great numbers, during the winter. On the second of February, in the neighborhood of Newbern, North Carolina, I saw a flock of Turtle Doves of many hundreds: in other places, as I advanced farther south, particularly near the Savannah river, in Georgia, the woods were swarming with them, and the whistling of their wings was heard in every direction.

On their return to the north in March, and early in April, they disperse so generally over the country, that there are rarely more than three or four seen together, most frequently only two. Here they commonly fly in pairs, resort constantly to the public roads, to dust themselves, and procure gravel; are often seen in the farmer's yard, before the door, the stable, barn, and other outhouses, in search of food, seeming little inferior in familiarity at such times to the domestic Pigeon. They often mix with the poultry, while they are fed in the morning, visit the yard and adjoining road many times a day, and the pump, creek, horse-trough and rills for water.

Their flight is quick, vigorous, and always accompanied by a peculiar whistling of the wings, by which they can easily be distinguished from the Wild Pigeon. They fly with great swiftmess, alight on trees, fences, or on the ground indiscriminately; are exceedingly fond of buckwheat, hempseed, and Indian corn; feed on the berries of the holly, the dogwood and poke, huckleberries, partridgeberries, and the small acorns of the live oak, and shrub oak. They devour large quantities of gravel, and sometimes pay a visit to the kitchen garden for peas, for which they have a particular regard.

In this part of Pennsylvania they commence building about the beginning of May. The nest is very rudely constructed, generally in an evergreen—among the thick foliage of a vine—in an orchard, on the horizontal branches of an apple-tree, and in some cases on the ground. It is composed of a handful of small twigs, laid with little art, on which are scattered dry fibrous roots of plants, and in this almost flat bed are deposited two eggs, of a snowy whiteness. The male and female unite in feeding the young, and they have rarely more than two broods in the same season.

The flesh of this bird is considered much superior to that of the Wild Pigeon; but its seeming confidence in man, the tenderness of its notes, and the innocency attached to its character, are with many its security and protection; with others, however, the tenderness of its *flesh*, and the sport of shooting, overcome all other considerations. About the commencement of frost, they begin to move off to the south; numbers, however, remain in Pennsylvania during the whole winter.

The Turtle Dove is twelve inches long, and seventeen inches in extent; bill black; eye of a glossy blackness, surrounded with a pale greenish blue skin; crown, upper part of the neck and wings a fine silky slate

blue; back, scapulars and lesser wing-coverts ashy brown; tertials spotted with black; primaries edged and tipped with white; forehead, sides of the neck and breast, a pale brown vinous orange; under the ear feathers a spot or drop of deep black; immediately below which the plumage reflects the most vivid tints of green, gold and crimson; chin pale yellow ochre; belly and vent whitish; legs and feet coral red, seamed with white; the tail is long and cuneiform, consisting of fourteen feathers; the four exterior ones on each side are marked with black about an inch from the tips, and white thence to the extremity; the next has less of the white at the tip; these gradually lengthen to the four middle ones, which are wholly dark slate; all of them taper towards the points, the two middle ones most so.

The female is an inch shorter, and is otherwise only distinguished by the less brilliancy of her color; she also wants the rich silky blue on the crown, and much of the splendor of the neck; the tail is also somewhat shorter, and the white with which it is marked less pure.

SPECIES III. *COLUMBA PASSERINA*.

GROUND DOVE.

[Plate XLVI. Fig. 2, Male.—Fig. 3, Female.]

LINN. *Syst.* 285.—SLOAN. *Jam.* II., 305.—*Le Cocotzin, Fernandez*, 24.—BUFF. II., 559, *Pl. Enl.* 243.—*La petite Tourterelle*, BRISS. I., 113.—TURT. *Syst.* 478.—*Columba minuta*, Ibid. p. 479.*—*Arct. Zool.* p. 328, No. 191.—CATESB. I., 26.†

THIS is one of the least of the Pigeon tribe, whose timid and innocent appearance forms a very striking contrast to the ferocity of the Bird-killer of the same plate. Such as they are in nature, such I have endeavored faithfully to represent them. I have been the more particular with this minute species, as no correct figure of it exists in any former work with which I am acquainted.

The Ground Dove is a native of North and South Carolina, Georgia, the new state of Louisiana, Florida, and the islands of the West Indies. In the latter it is frequently kept in cages; is esteemed excellent for the table, and honored by the French planters with the name of Ortolan. They are numerous in the sea islands on the coast of Carolina and Georgia; fly in flocks or coveys of fifteen or twenty; seldom visit the

* Prince Musignano considers this synonyme is incorrect.

† *Columba Passerina*, LATH. *Ind. Orn.* p. 611, No. 67, *C. minuta*, Id. p. 612, No. 68.

woods, preferring open fields and plantations; are almost constantly on the ground, and when disturbed fly to a short distance and again alight. They have a frequent jetting motion with the tail; feed on rice, various seeds and berries, particularly those of the Tooth-ache tree,* under or near which, in the proper season, they are almost sure to be found. Of their nest or manner of breeding I am unable, at present, to give any account.

These birds seem to be confined to the districts lying south of Virginia. They are plenty on the upper parts of Cape Fear river, and in the interior of Carolina and Georgia; but I have never met with them either in Maryland, Delaware, or Pennsylvania. They never congregate in such multitudes as the common Wild Pigeon; or even as the Carolina Pigeon or Turtle Dove; but, like the Partridge or Quail, frequent the open fields in small coveys. They are easily tamed; have a low tender cooing note, accompanied with the usual gesticulations of their tribe.

The Ground Dove is a bird of passage, retiring to the islands and to the more southerly parts of the continent on the approach of winter, and returning to its former haunts early in April. It is of a more slender and delicate form, and less able to bear the rigors of cold, than either of the other two species common in the United States, both of which are found in the northern regions of Canada, as well as in the genial climate of Florida.

The DOVE, generally speaking, has long been considered as the favorite emblem of peace and innocence, probably from the respectful manner in which its name is mentioned in various parts of Scripture; its being selected from among all the birds by Noah to ascertain the state of the deluge, and returning to the ark, bearing the olive leaf as a messenger of peace and good tidings; the Holy Ghost, it is also said, was seen to descend *like a dove* from heaven, &c., &c. In addition to these, there is in the Dove an appearance of meekness and innocency very interesting, and well calculated to secure our partiality in its favor. These remarks are applicable to the whole genus; but are more particularly so to the species now before us, as being among the least, the most delicate and inoffensive, of the whole.

The Ground Dove is six inches and a quarter long; bill yellow, black at the point; nostril covered with a prominent membrane, as is usual with the genus; iris of the eye orange red; front, throat, breast and sides of the neck, pale vinaceous purple; the feathers strongly defined by semicircular outlines, those on the throat centered with dusky blue; crown and hind head a fine pale blue, intermixed with purple, the plumage like that on the throat strongly defined; back cinereous brown,

* *Xanthoxylum Clava Herculis.*

the scapulars deeply tinged with pale purple, and marked with detached drops of glossy blue, reflecting tints of purple; belly pale vinaceous brown, becoming dark cinereous towards the vent, where the feathers are bordered with white; wing quills dusky outwardly and at the tips; lower sides, and whole interior vanes, a fine red chestnut, which shows itself a little below their coverts; tail rounded, consisting of twelve feathers, the two middle ones cinereous brown, the rest black, tipped and edged with white; legs and feet yellow.

The female has the back and tail coverts of a mouse color, with little or none of the vinaceous tint on the breast and throat, nor any of the light blue on the hind head; the throat is speckled with dull white, pale clay color, and dusky; sides of the neck the same, the plumage strongly defined; breast cinereous brown, slightly tintured with purple; scapulars marked with large drops of a dark purplish blood color, reflecting tints of blue; rest of the plumage nearly the same as that of the male.

GENUS LVI. TETRAO.

SPECIES I. *T. UMBELLUS.*

RUFFED GROUSE.

[Plate XLIX.]

Arct. Zool. p. 301, No. 179.—*Ruffed Heath-cock, or Grouse*, EDW. 248.—*La Gelinote huppée de Pennsylvanie*, BRISS. I., 214.—*Pl. Enl.* 104.—*BUFF.* II., 281.—*Phil. Trans.* 62, 393.—*TURT. Syst.* 454.

THIS is the *Partridge* of the Eastern States, and the *Pheasant* of Pennsylvania, and the southern districts. It is represented in the plate of its full size; and was faithfully copied from a perfect and very beautiful specimen.

This elegant species is well known in almost every quarter of the United States, and appears to inhabit a very extensive range of country. It is common at Moose Fort, on Hudson's Bay, in lat. 51°; is frequent in the upper parts of Georgia; very abundant in Kentucky and the Indiana territory; and was found by Captains Lewis and Clarke in crossing the great range of mountains that divide the waters of the Columbia and Missouri, more than three thousand miles, by their measurement, from the mouth of the latter. Its favorite places of resort are high mountains, covered with the balsam pine, hemlock, and such like evergreens. Unlike the Pinnated Grouse, it always prefers the woods; is seldom or never found in open plains; but loves the pine-

sheltered declivities of mountains, near streams of water. This great difference of disposition in two species, whose food seems to be nearly the same, is very extraordinary. In those open plains called the Barrens of Kentucky, the Pinnated Grouse was seen in great numbers, but none of the Ruffed; while in the high groves with which that singular tract of country is interspersed, the latter, or Pheasant, was frequently met with; but not a single individual of the former.

The native haunts of the Pheasant being a cold, high, mountainous and woody country, it is natural to expect that as we descend thence to the sea shores, and the low, flat and warm climate of the Southern States, these birds should become more rare, and such indeed is the case. In the lower parts of Carolina, Georgia and Florida, they are very seldom observed; but as we advance inland to the mountains, they again make their appearance. In the lower parts of New Jersey we indeed occasionally meet with them; but this is owing to the more northerly situation of the country; for even here they are far less numerous than among the mountains.

Dr. Turton, and several other English writers, have spoken of a Long-tailed Grouse, said to inhabit the back parts of Virginia, which can be no other than the present species, there being, as far as I am acquainted, only these two, the Ruffed and Pinnated Grouse, found native within the United States.

The manners of the Pheasant are solitary; they are seldom found in coveys of more than four or five together, and more usually in pairs or singly. They leave their sequestered haunts in the woods early in the morning, and seek the path or road, to pick up gravel, and glean among the droppings of the horses. In travelling among the mountains that bound the Susquehanna, I was always able to furnish myself with an abundant supply of these birds, every morning, without leaving the path. If the weather be foggy, or lowering, they are sure to be seen in such situations. They generally move along with great stateliness, their broad fan-like tail spread out in the manner exhibited in the drawing. The drumming, as it is usually called, of the Pheasant, is another singularity of this species. This is performed by the male alone. In walking through solitary woods frequented by these birds, a stranger is surprised by suddenly hearing a kind of thumping, very similar to that produced by striking two full-blown ox-bladders together, but much louder; the strokes at first are slow and distinct; but gradually increase in rapidity till they run into each other, resembling the rumbling sound of very distant thunder, dying away gradually on the ear. After a few minutes' pause, this is again repeated; and in a calm day may be heard nearly a half mile off. This drumming is most common in spring, and is the call of the cock to his favorite female. It is produced in the following manner. The bird, standing on an old prostrate log, generally

ring noise, and flies with great vigor through the woods, beyond reach of view, before it alights. With a good dog, however, they are easily found; and at some times exhibit a singular degree of infatuation, by looking down, from the branches where they sit, on the dog below, who, the more noise he keeps up, seems the more to confuse and stupefy them, so that they may be shot down, one by one, till the whole are killed, without attempting to fly off. In such cases, those on the lower limbs must be taken first, for should the upper ones be first killed, in their fall they alarm those below, who immediately fly off. In deep snows they are usually taken in traps, commonly dead-traps, supported by a figure 4 trigger. At this season, when suddenly alarmed, they frequently dive into the snow, particularly when it has newly fallen, and coming out at a considerable distance, again take wing. They are pretty hard to kill, and will often carry off a large load to the distance of two hundred yards, and drop down dead. Sometimes in the depth of winter they approach the farm house, and lurk near the barn, or about the garden. They have also been often taken young and tamed, so as to associate with the fowls; and their eggs have frequently been hatched under the common hen; but these rarely survive until full grown. They are exceedingly fond of the seeds of grapes; occasionally eat ants, chestnuts, blackberries, and various vegetables. Formerly they were numerous in the immediate vicinity of Philadelphia; but as the woods were cleared, and population increased, they retreated to the interior. At present there are very few to be found within several miles of the city, and those only singly, in the most solitary and retired woody recesses.

The Pheasant is in best order for the table in September and October. At this season they feed chiefly on whortleberries, and the little red aromatic partridgeberries, the last of which gives their flesh a peculiar delicate flavor. With the former our mountains are literally covered from August to November; and these constitute at that season the greater part of their food. During the deep snows of winter, they have recourse to the buds of alder, and the tender buds of the laurel. I have frequently found their crops distended with a large handful of these latter alone; and it has been confidently asserted, that after having fed for some time on the laurel buds, their flesh becomes highly dangerous to eat of, partaking of the poisonous qualities of the plant. The same has been asserted of the flesh of the deer, when in severe weather, and deep snows, they subsist on the leaves and bark of the laurel. Though I have myself eat freely of the flesh of the Pheasant, after emptying it of large quantities of laurel buds, without experiencing any bad consequences, yet, from the respectability of those, some of them eminent physicians, who have particularized cases in which it has proved deleterious, and even fatal, I am inclined to believe that in certain cases

where this kind of food has been long continued, and the birds allowed to remain undrawn for several days, until the contents of the crop and stomach have had time to diffuse themselves through the flesh, as is too often the case, it may be unwholesome, and even dangerous. Great numbers of these birds are brought to our markets, at all times during fall and winter, some of which are brought from a distance of more than a hundred miles, and have been probably dead a week or two, unpicked and undrawn, before they are purchased for the table. Regulations prohibiting them from being brought to market, unless picked and drawn, would very probably be a sufficient security from all danger. At these inclement seasons, however, they are generally lean and dry, and indeed at all times their flesh is far inferior to that of the Quail, or of the Pinnated Grouse. They are usually sold in Philadelphia market at from three-quarters of a dollar to a dollar and a quarter a pair, and sometimes higher.

The Pheasant or Partridge of New England, is eighteen inches long, and twenty-three inches in extent; bill a horn color, paler below; eye reddish hazel, immediately above which is a small spot of bare skin of a scarlet color; crested head and neck, variegated with black, red brown, white and pale brown; sides of the neck furnished with a tuft of large black feathers, twenty-nine or thirty in number, which it occasionally raises: this tuft covers a large space of the neck destitute of feathers; body above a bright rust color, marked with oval spots of yellowish white, and sprinkled with black; wings plain olive brown, exteriorly edged with white, spotted with olive; the tail is rounding, extends five inches beyond the tips of the wings, is of a bright reddish brown beautifully marked with numerous waving transverse bars of black, is also crossed by a broad band of black within half an inch of the tip, which is bluish white, thickly sprinkled and specked with black; body below white, marked with large blotches of pale brown; the legs are covered half way to the feet with hairy down, of a brownish white color; legs and feet pale ash; toes pectinated along the sides, the two exterior ones joined at the base as far as the first joint by a membrane; vent yellowish rust color.

The female and young birds differ in having the ruff or tufts of feathers on the neck of a dark brown color, as well as the bar of black on the tail inclining much to the same tint.

SPECIES II. *TETRAO CUPIDO*.

PINNATED GROUSE.

[Plate XXVII. Fig. 1.]

LINN. *Syst.* I., p. 274, 5.—LATH. II., p. 740.—*Arct. Zool.*—*La Gelinote huppée d'Amérique*, BRISS. *Orn.* I., p. 212, 10.—*Urogalus minor, fuscus cervice, plumis alas imitantibus donata*, CATESB. *Car. App. pl.* 1.—*Tetrao lagopus*, the *Mountain Cock*, or *Grouse*, BARTRAM, p. 290.—*Heath-hen*, *Prairie-hen*, *Barren-hen*.

BEFORE I enter on a detail of the observations which I have myself personally made on this singular species, I shall lay before the reader a comprehensive and very circumstantial memoir on the subject, communicated to me by the writer, Dr. Samuel L. Mitchill of New York, whose exertions, both in his public and private capacity, in behalf of science, and in elucidating the natural history of his country, are well known; and highly honorable to his distinguished situation and abilities. That peculiar tract generally known by the name of the Brushy Plains of Long Island, having been, for time immemorial, the resort of the bird now before us, some account of this particular range of country seemed necessarily connected with the subject, and has accordingly been obligingly attended to by the learned professor.

“NEW YORK, Sept. 19th, 1810.

“Dear Sir,

“It gives me great pleasure to reply to your letter of the twelfth instant, asking of me information concerning the Grouse of Long Island.

“The birds which are known there emphatically by the name of Grouse, inhabit chiefly the forest-range. This district of the island may be estimated as being between forty and fifty miles in length, extending from Bethpage in Queens county to the neighborhood of the court-house in Suffolk. Its breadth is not more than six or seven. For although the island is bounded by the Sound separating it from Connecticut on the north, and by the Atlantic Ocean on the south, there is a margin of several miles on each side in the actual possession of human beings.

“The region in which these birds reside, lies mostly within the towns of Oysterbay, Huntington, Islip, Smithtown, and Brook Haven; though it would be incorrect to say, that they were not to be met with some-

times in Riverhead and Southampton.—Their territory has been defined by some sportsmen, as situated between Hempstead-plain on the west, and Shinnecock-plain on the east.

“The more popular name for them is *Heath-hens*. By this they are designated in the act of our legislature for the preservation of them and of other game. I well remember the passing of this law. The bill was introduced by Cornelius J. Boggert, Esq., a member of the Assembly from the city of New York. It was in the month of February, 1791.

“The statute declares among other things, that the person who shall kill any Heath-hen within the counties of Suffolk or Queens, between the first day of April and the fifth day of October, shall for every such offence, forfeit and pay the sum of two dollars and a half, to be recovered with costs of suit, by any person who shall prosecute for the same, before any justice of the peace, in either of the said counties; the one half to be paid to the plaintiff, and the other half to the overseers of the poor. And if any Heath-hen so killed, shall be found in the possession of any person, he shall be deemed guilty of the offence, and suffer the penalty. But it is provided, that no defendant shall be convicted unless the action shall be brought within three months after the violation of the law.*

“The country selected by these exquisite birds requires a more particular description. You already understand it to be the midland and interior district of the island. The soil of this island is, generally speaking, a sandy or gravelly loam. In the parts less adapted to tillage, it is more of an unmixed sand. This is so much the case, that the shore of the beaches beaten by the ocean, affords a material from which glass has been prepared. Siliceous grains and particles predominate in the region chosen by the Heath-hens or Grouse. Here there are no rocks, and very few stones of any kind. This sandy tract appears to be a dereliction of the ocean, but is nevertheless not doomed to total sterility. Many thousand acres have been reclaimed from the wild state, and rendered very productive to man. And within the towns frequented by these birds, there are numerous inhabitants, and among them some of our most wealthy farmers.

“But within the same limits, there are also tracts of great extent where men have no settlements, and others where the population is spare

* The doctor has probably forgotten a circumstance of rather a ludicrous kind that occurred at the passing of this law; and which was, not long ago, related to me by my friend Mr. Gardiner, of Gardiner's Island, Long Island. The bill was entitled “An Act for the preservation of Heath-hen and other Game.” The honest chairman of the Assembly, no sportsman I suppose, read the title “An Act for the preservation of HEATHEN and other Game!” which seemed to astonish the north members, who could not see the propriety of preserving *Indians*, or any other Heathen.

and scanty. These are however, by no means, naked deserts. They are, on the contrary, covered with trees, shrubs and smaller plants. The trees are mostly pitch-pines of inferior size, and white oaks of a small growth. They are of a quality very fit for burning. Thousands of cords of both sorts of firewood are annually exported from these barrens. Vast quantities are occasionally destroyed by the fires which through carelessness or accident spread far and wide through the woods. The city of New York will probably for ages derive fuel from the grouse-grounds. The land after having been cleared, yields to the cultivator poor crops. Unless therefore he can help it by manure, the best disposition is to let it grow up to forest again. Experience has proved, that in a term of forty or fifty years, the new growth of timber will be fit for the axe. Hence it may be perceived, that the reproduction of trees, and the protection they afford to Heath-hens, would be perpetual; or in other words, not circumscribed by any calculable time; provided the persecutors of the latter would be quiet.

"Beneath these trees grow more dwarfish oaks, overspreading the surface, sometimes with here and there a shrub, and sometimes a thicket. These latter are from about two to ten feet in height. Where they are the principal product, they are called in common conversation *brush*, as the flats on which they grow are termed *Brushy plains*. Among this hardy shrubbery may frequently be seen the creeping vegetable named the partridgeberry covering the sand with its lasting verdure. In many spots the plant which produces hurtleberries, sprout up among the other natives of the soil. These are the more important, though I ought to inform you that the hills reaching from east to west, and forming the spine of the island, support kalmias, hickories, and many other species: that I have seen azalias and andromedas as I passed through the wilderness; and that where there is water, cranberries, alders, beeches, maples, and other lovers of moisture, take their stations.

"This region, situated thus between the more thickly inhabited strips or belts on the north and south sides of the island, is much travelled by wagons, and intersected accordingly by a great number of paths.

"As to the birds themselves, the information I possess scarcely amounts to an entire history. You, who know the difficulty of collecting facts, will be the most ready to excuse my deficiencies. The information I give you is such as I rely on. For the purpose of gathering the materials, I have repeatedly visited their haunts. I have likewise conversed with several men who were brought up at the precincts of the grouse-ground, who had been witnesses of their habits and manners, who were accustomed to shoot them for the market, and who have acted as guides to gentlemen who go there for sport.

"*Bulk*.—An adult Grouse when fat weighs as much as a barn door fowl of moderate size, or about three pounds avoirdupois. But the

eagerness of the sportsman is so great, that a large proportion of those they kill, are but a few months old, and have not attained their complete growth. Notwithstanding the protection of the law, it is very common to disregard it. The retired nature of the situation favors this. It is well understood that an arrangement can be made which will blind and silence informers, and that the gun is fired with impunity, for weeks before the time prescribed in the act. To prevent this unfair and unlawful practice, an association was formed a few years ago, under the title of the *Brush club*, with the express and avowed intention of enforcing the game-law. Little benefit, however, has resulted from its laudable exertions; and under a conviction that it was impossible to keep the poachers away, the society declined. At present the statute may be considered as operating very little toward their preservation. Grouse, especially full-grown ones, are becoming less frequent. Their numbers are gradually diminishing; and assailed as they are on all sides, almost without cessation, their scarcity may be viewed as foreboding their eventual extermination.

“*Price*.—Twenty years ago a brace of Grouse could be bought for a dollar. They now cost from three to five dollars. A handsome pair seldom sells in the New York market now-a-days for less than thirty shillings [three dollars seventy-five cents], nor for more than forty [five dollars]. These prices indicate indeed the depreciation of money, and the luxury of eating. They prove at the same time, that Grouse are become rare; and this fact is admitted by every man who seeks them, whether for pleasure or for profit.

“*Amours*.—The season for pairing is in March, and the breeding time is continued through April and May. Then the male Grouse distinguishes himself by a peculiar sound. When he utters it, the parts about the throat are sensibly inflated and swelled. It may be heard on a still morning for three or more miles; some say they have perceived it as far as five or six. This noise is a sort of ventriloquism. It does not strike the ear of a bystander with much force; but impresses him with the idea, though produced within a few rods of him, of a voice a mile or two distant. This note is highly characteristic. Though very peculiar, it is termed *tooting*, from its resemblance to the blowing of a conch or horn from a remote quarter. The female makes her nest on the ground, in recesses very rarely discovered by men. She usually lays from ten to twelve eggs. Their color is of a brownish, much resembling those of a Guinea-hen. When hatched, the brood is protected by her alone. Surrounded by her young, the mother bird exceedingly resembles a domestic hen and chickens. She frequently leads them to feed in the roads crossing the woods, on the remains of maize and oats contained in the dung dropped by the travelling horses. In that employment they are often surprised by the passengers. On such occasions

the dam utters a cry of alarm. The little ones immediately scamper to the brush; and while they are skulking into places of safety, their anxious parent beguiles the spectator by drooping and fluttering her wings, limping along the path, rolling over in the dirt, and other pretences of inability to walk or fly.

“*Food*.—A favorite article of their diet is the *heath-hen plum*, or partridgeberry before mentioned. They are fond of hurtleberries, and cranberries. Worms and insects of several kinds are occasionally found in their crops. But in the winter they subsist chiefly on acorns, and the buds of trees which have shed their leaves. In their stomachs have been sometimes observed the leaves of a plant supposed to be a winter green; and it is said, when they are much pinched, they betake themselves to the buds of the pine. In convenient places they have been known to enter cleared fields, and regale themselves on the leaves of clover; and old gunners have reported that they have been known to trespass upon patches of buckwheat, and pick up the grains.

“*Migration*.—They are stationary, and never known to quit their abode. There are no facts showing in them any disposition to migration. On frosty mornings and during snows, they perch on the upper branches of pine-trees. They avoid wet and swampy places; and are remarkably attached to dry ground. The low and open brush is preferred to high shrubbery and thickets. Into these latter places, they fly for refuge when closely pressed by the hunters, and here, under a stiff and impenetrable cover, they escape the pursuit of dogs and men. Water is so seldom met with on the true grouse-ground, that it is necessary to carry it along for the pointers to drink. The flights of Grouse are short, but sudden, rapid and whirring. I have not heard of any success in taming them. They seem to resist all attempts at domestication. In this as well as in many other respects, they resemble the Quail of New York, or the Partridge of Pennsylvania.

“*Manners*.—During the period of mating, and while the females are occupied in incubation, the males have a practice of assembling, principally by themselves. To some select and central spot where there is very little underwood, they repair from the adjoining district. From the exercises performed there, this is called a *scratching-place*. The time of meeting is the break of day. As soon as the light appears, the company assembles from every side, sometimes to the number of forty or fifty. When the dawn is past, the ceremony begins by a low tooting from one of the cocks. This is answered by another. They then come forth one by one from the bushes, and strut about with all the pride and ostentation they can display. Their necks are incurvated; the feathers on them are erected into a sort of ruff; the plumes of their tails are expanded like fans; they strut about in a style resembling, as nearly as small may be illustrated by great, the pomp of the turkey

cock. They seem to vie with each other in stateliness; and as they pass each other frequently cast looks of insult, and utter notes of defiance. These are the signals for battles. They engage with wonderful spirit and fierceness. During these contests, they leap a foot or two from the ground, and utter a cackling, screaming and discordant cry.

"They have been found in these places of resort even earlier than the appearance of light in the east. This fact has led to the belief that a part of them assemble over night. The rest join them in the morning. This leads to the further belief that they roost on the ground. And the opinion is confirmed by the discovery of little rings of dung, apparently deposited by a flock which had passed the night together. After the appearance of the sun they disperse.

"These places of exhibition have been often discovered by the hunters; and a fatal discovery it has been for the poor Grouse. Their destroyers construct for themselves lurking holes made of pine branches, called *bough houses*, within a few yards of the parade. Hither they repair with their fowling-pieces in the latter part of the night, and wait the appearance of the birds. Watching the moment when two are proudly eyeing each other, or engaged in battle; or when a greater number can be seen in a range, they pour on them a destructive charge of shot. This annoyance has been given in so many places, and to such extent, that the Grouse, after having been repeatedly disturbed, are afraid to assemble. On approaching the spot to which their instinct prompts them, they perch on the neighboring trees, instead of alighting at the scratching place. And it remains to be observed, how far the restless and tormenting spirit of the marksmen, may alter the native habits of the Grouse, and oblige them to betake themselves to new ways of life.

"They commonly keep together in coveys, or *packs*, as the phrase is, until the pairing season. A full pack consists of course of ten or a dozen. Two packs have been known to associate. I lately heard of one whose number amounted to twenty-two. They are so unapt to be startled, that a hunter, assisted by a dog, has been able to shoot almost a whole pack, without making any of them take wing. In like manner the men lying in concealment near the scratching places, have been known to discharge several guns before either the report of the explosion, or the sight of their wounded and dead fellows, would rouse them to flight. It has further been remarked, that when a company of sportsmen have surrounded a pack of Grouse, the birds seldom or never rise upon their pinions while they are encircled; but each runs along until it passes the person that is nearest, and then flutters off with the utmost expedition.

"As you have made no inquiry of me concerning the ornithological character of these birds, I have not mentioned it, presuming that you

are already perfectly acquainted with their classification and description. In a short memoir written in 1803, and printed in the eighth volume of the Medical Repository, I ventured an opinion as to the genus and species. Whether I was correct is a technical matter, which I leave you to adjust. I am well aware that European accounts of our productions are often erroneous, and require revision and amendment. This you must perform. For me it remains to repeat my joy at the opportunity your invitation has afforded me to contribute somewhat to your elegant work, and at the same time to assure you of my earnest hope that you may be favored with ample means to complete it.

“SAMUEL L. MITCHILL.”

Duly sensible of the honor of the foregoing communication, and grateful for the good wishes with which it is concluded, I shall now, in further elucidation of the subject, subjoin a few particulars properly belonging to my own department.

It is somewhat extraordinary that the European naturalists, in their various accounts of our different species of Grouse, should have said little or nothing of the one now before us, which in its voice, manners, and peculiarity of plumage, is the most singular, and in its flesh the most excellent, of all those of its tribe that inherit the territory of the United States. It seems to have escaped Catesby during his residence and different tours through this country, and it was not till more than twenty years after his return to England, viz. in 1743, that he first saw some of these birds, as he informs us, at Cheswick, the seat of the Earl of Wilmington. His lordship said they came from America; but from what particular part could not tell.* Buffon has confounded it with the Ruffed Grouse, the common Partridge of New England, or Pheasant of Pennsylvania (*Tetrao umbellus*); Edwards and Pennant have, however, discovered that it is a different species; but have said little of its note, of its flesh, or peculiarities; for, alas! there was neither voice nor action, nor delicacy of flavor in the shrunk and decayed skin from which the former took his figure, and the latter his description; and to this circumstance must be attributed the barrenness and defects of both.

That the curious may have an opportunity of examining to more advantage this singular bird, a figure of the male is here given as large as life, drawn with great care from the most perfect of several elegant specimens shot in the Barrens of Kentucky. He is represented in the act of *strutting*, as it is called, while with inflated throat he produces that extraordinary sound so familiar to every one who resides in his vicinity, and which has been described in the foregoing account. So

* CATESB. Car. p. 101, App.

very novel and characteristic did the action of these birds appear to me at first sight, that, instead of shooting them down, I sketched their attitude hastily on the spot; while concealed among a brush-heap, with seven or eight of them within a short distance. Three of these I afterwards carried home with me.

This rare bird, though an inhabitant of different and very distant districts of North America, is extremely particular in selecting his place of residence; pitching only upon those tracts whose features and productions correspond with his modes of life; and avoiding immense intermediate regions that he never visits. Open dry plains, thinly interspersed with trees, or partially overgrown with shrub-oak, are his favorite haunts. Accordingly we find these birds on the Grouse plains of New Jersey, in Burlington county, as well as on the brushy plains of Long Island—among the pines and shrub-oaks of Pocono, in Northampton county, Pennsylvania—over the whole extent of the Barrens of Kentucky—on the luxuriant plains and prairies of the Indiana territory, and Upper Louisiana; and according to the information of the late Governor Lewis, on the vast and remote plains of the Columbia river. In all these places preserving the same singular habits.

Their predilection for such situations will be best accounted for by considering the following facts and circumstances. First, their mode of flight is generally direct, and laborious, and ill calculated for the labyrinth of a high and thick forest, crowded and intersected with trunks and arms of trees, that require continual angular evolution of wing, or sudden turnings, to which they are by no means accustomed. I have always observed them to avoid the high-timbered groves that occur here and there in the Barrens. Connected with this fact is a circumstance related to me by a very respectable inhabitant of that country, viz.: that one forenoon a cock Grouse struck the stone chimney of his house with such force as instantly to fall dead to the ground.

Secondly, their known dislike of ponds, marshes, or watery places, which they avoid on all occasions, drinking but seldom, and, it is believed, never from such places. Even in confinement this peculiarity has been taken notice of. While I was in the state of Tennessee, a person living within a few miles of Nashville had caught an old hen Grouse in a trap; and being obliged to keep her in a large cage, as she struck and abused the rest of the poultry, he remarked that she never drank; and that she even avoided that quarter of the cage where the cup containing the water was placed. Happening one day to let some water fall on the cage, it trickled down in drops along the bars, which the bird no sooner observed, than she eagerly picked them off, drop by drop, with a dexterity that showed she had been habituated to this mode of quenching her thirst; and probably to this mode only, in those dry and barren tracts, where, except the drops of dew, and drops of

rain, water is very rarely to be met with. For the space of a week he watched her closely to discover whether she still refused to drink; but, though she was constantly fed on Indian corn, the cup and water still remained untouched and untasted. Yet no sooner did he again sprinkle water on the bars of the cage, than she eagerly and rapidly picked them off as before.

The last, and probably the strongest inducement to their preferring these plains, is the small acorn of the shrub-oak; the strawberries, huckleberries, and partridgeberries with which they abound, and which constitute the principal part of the food of these birds. These brushy thickets also afford them excellent shelter, being almost impenetrable to dogs or birds of prey.

In all these places where they inhabit they are, in the strictest sense of the word, resident: having their particular haunts, and places of rendezvous (as described in the preceding account), to which they are strongly attached. Yet they have been known to abandon an entire tract of such country, when, from whatever cause it might proceed, it became again covered with forest. A few miles south of the town of York, in Pennsylvania, commences an extent of country, formerly of the character described, now chiefly covered with wood; but still retaining the name of *Barrens*. In the recollection of an old man born in that part of the country, this tract abounded with Grouse.

The timber growing up, in progress of years, these birds totally disappeared: and for a long period of time he had seen none of them; until migrating with his family to Kentucky, on entering the Barrens he one morning recognised the well known music of his old acquaintance the Grouse; which he assures me are the very same with those he had known in Pennsylvania.

But what appears to me the most remarkable circumstance relative to this bird is, that not one of all those writers who have attempted its history has taken the least notice of those two extraordinary bags of yellow skin which mark the neck of the male, and which constitute so striking a peculiarity. These appear to be formed by an expansion of the gullet as well as of the exterior skin of the neck, which, when the bird is at rest, hangs in loose pendulous wrinkled folds, along the side of the neck, the supplemental wings, at the same time, as well as when the bird is flying, lying along the neck in the manner represented in one of the distant figures in the plate. But when these bags are inflated with air, in breeding time, they are equal in size and very much resemble in color, a middle sized fully ripe orange. By means of this curious apparatus, which is very observable several hundred yards off, he is enabled to produce the extraordinary sound mentioned above, which, though it may easily be imitated, is yet difficult to describe by words. It consists of three notes, of the same tone, resembling those

produced by the Night Hawks in their rapid descent; each strongly accented, the last being twice as long as the others. When several are thus engaged, the ear is unable to distinguish the regularity of these triple notes, there being at such times one continued bumming, which is disagreeable and perplexing, from the impossibility of ascertaining from what distance or even quarter it proceeds. While uttering this the bird exhibits all the ostentatious gesticulations of a turkey-cock; erecting and fluttering his neck wings, wheeling and passing before the female, and close before his fellows, as in defiance. Now and then are heard some rapid cackling notes, not unlike that of a person tickled to excessive laughter; and in short one can scarcely listen to them without feeling disposed to laugh from sympathy. These are uttered by the males while engaged in fight, on which occasion they leap up against each other, exactly in the manner of turkeys, seemingly with more malice than effect. This bumming continues from a little before day-break to eight or nine o'clock in the morning, when the parties separate to seek for food.

Fresh ploughed fields, in the vicinity of their resorts, are sure to be visited by these birds every morning, and frequently also in the evening. On one of these I counted, at one time, seventeen males, most of whom were in the attitude represented in the plate; making such a continued sound as I am persuaded might have been heard for more than a mile off. The people of the Barrens informed me, that when the weather became severe, with snow, they approach the barn and farm-house; are sometimes seen sitting on the fences in dozens; mix with the poultry, and glean up the scattered grains of Indian corn; seeming almost half domesticated. At such times great numbers are taken in traps. No pains, however, or regular plan has ever been persisted in, as far as I was informed, to domesticate these delicious birds. A Mr. Reed, who lives between the Pilot Knobs and Bairdstown, told me, that a few years ago, one of his sons found a Grouse's nest, with fifteen eggs, which he brought home, and immediately placed below a hen then sitting; taking away her own. The nest of the Grouse was on the ground, under a tussock of long grass, formed with very little art and few materials; the eggs were brownish white, and about the size of a pullet's. In three or four days the whole were hatched. Instead of following the hen, they compelled her to run after *them*, distracting her with the extent and diversity of their wanderings; and it was a day or two before they seemed to understand her language, or consent to be guided by her. They were let out to the fields, where they paid little regard to their nurse; and in a few days, only three of them remained. These became extremely tame and familiar, were most expert fly catchers; but soon after they also disappeared.

The Pinnated Grouse is nineteen inches long, twenty-seven inches in

extent, and when in good order, weighs about three pounds and a half; the neck is furnished with supplemental wings, each composed of eighteen feathers, five of which are black, and about three inches long, the rest shorter, also black, streaked laterally with brown, and of unequal lengths; the head is slightly crested; over the eye is an elegant semicircular comb of rich orange, which the bird has the power of raising or relaxing; under the neck wings are two loose pendulous and wrinkled skins, extending along the side of the neck for two-thirds of its length, each of which, when inflated with air, resembles, in bulk, color and surface, a middle sized orange; chin cream-colored; under the eye runs a dark streak of brown; whole upper parts mottled transversely with black, reddish brown and white; tail short, very much rounded, and of a plain brownish soot color; throat elegantly marked with touches of reddish brown, white and black; lower part of the breast and belly pale brown, marked transversely with white; legs covered to the toes with hairy down, of a dirty drab color; feet dull yellow, toes pectinated; vent whitish; bill brownish horn color; eye reddish hazel. The female is considerably less, of a lighter color; destitute of the neck wings, the naked yellow skin on the neck, and the semicircular comb of yellow over the eye.

On dissecting these birds the gizzard was found extremely muscular, having almost the hardness of a stone; the heart remarkably large; the crop was filled with briar knots, containing the larvæ of some insect,—quantities of a species of green lichen, small hard seeds, and some grains of Indian corn.

GENUS LVII. PERDIX.

SPECIES *P. VIRGINIANUS*.

QUAIL, OR PARTRIDGE.

[Plate XLVII. Fig. 2.]

Arct. Zool. 318, No. 185.—*CATESB. App.* p. 12.—*Virginian Quail*, *TURT. Syst.* p. 460.—*Maryland Q.* *Ibid.*—*Le Perdrix d'Amérique*, *BRISS. I.*, 231.—*BUFF. II.*, 447.*

THIS well known bird is a general inhabitant of North America, from the northern parts of Canada and Nova Scotia, in which latter place it is said to be migratory, to the extremity of the peninsula of

* *Tetrao Virginianus*, *LINN. Syst.* ed. 10, p. 161. *T. Marilandicus*, *id. ib.*—*Perdix Virginiana*, *LATH. Ind. Orn.* p. 650. *P. Marilanda*, *id.* p. 651.—*Caille de la Louisiane*, *BUFF. Pl. Enl.* 149.

Florida; and was seen in the neighborhood of the Great Osage village, in the interior of Louisiana. They are numerous in Kentucky and Ohio; Mr. Pennant remarks that they have been lately introduced into the island of Jamaica, where they appear to thrive greatly, breeding in that warm climate twice in the year. Captain Henderson mentions them as being plenty near the Balize, at the Bay of Honduras. They rarely frequent the forest, and are most numerous in the vicinity of well cultivated plantations, where grain is in plenty. They, however, occasionally seek shelter in the woods, perching on the branches, or secreting among the brush wood; but are found most usually in open fields, or along fences sheltered by thickets of briars. Where they are not too much persecuted by the sportsmen, they become almost half domesticated; approach the barn, particularly in winter, and sometimes in that severe season mix with the poultry, to glean up a subsistence. They remain with us the whole year, and often suffer extremely by long hard winters, and deep snows. At such times the arts of man combine with the inclemency of the season for their destruction. To the ravages of the gun are added others of a more insidious kind. Traps are placed on almost every plantation, in such places as they are known to frequent. These are formed of lath, or thinly split sticks, somewhat in the shape of an obtuse cone, laced together with cord, having a small hole at top, with a sliding lid, to take out the game by. This is supported by the common *figure 4* trigger, and grain is scattered below, and leading to the place. By this contrivance ten or fifteen have sometimes been taken at a time. These are sometimes brought alive to market, and occasionally bought up by sportsmen, who, if the season be very severe, sometimes preserve and feed them till spring, when they are humanely turned out to their native fields again, to be put to death, at some future time, *secundem artem*. Between the months of August and March, great numbers of these birds are brought to the market of Philadelphia, where they are sold from twelve to eighteen cents apiece.

The Quail begins to build early in May. The nest is made on the ground, usually at the bottom of a thick tuft of grass that shelters and conceals it. The materials are leaves and fine dry grass, in considerable quantity. It is well covered above, and an opening left on one side for entrance. The female lays from fifteen to twenty-four eggs, of a pure white without any spots. The time of incubation has been stated to me by various persons at four weeks, when the eggs were placed under the domestic hen. The young leave the nest as soon as they are freed from the shell, and are conducted about in search of food by the female; are guided by her voice, which at that time resembles the twittering of young chickens, and sheltered by her wings, in the same manner as those of the domestic fowl; but with all that secrecy and precaution for their safety, which their helplessness and greater

danger require. In this situation should the little timid family be unexpectedly surprised, the utmost alarm and consternation instantly prevail. The mother throws herself in the path, fluttering along, and beating the ground with her wings, as if sorely wounded, using every artifice she is mistress of, to entice the passenger in pursuit of herself, uttering at the same time certain peculiar notes of alarm, well understood by the young, who dive separately amongst the grass, and secrete themselves till the danger is over; and the parent, having decoyed the pursuer to a safe distance, returns, by a circuitous route, to collect and lead them off. This well known manœuvre, which nine times in ten is successful, is honorable to the feelings and judgment of the bird, but a severe satire on man. The affectionate mother, as if sensible of the avaricious cruelty of his nature, tempts him with a larger prize, to save her more helpless offspring; and pays him, as avarice and cruelty ought always to be paid, with mortification and disappointment.

The eggs of the Quail have been frequently placed under the domestic hen, and hatched and reared with equal success as her own; though, generally speaking, the young Partridges being more restless and vagrant, often lose themselves, and disappear. The hen ought to be a particularly good nurse, not at all disposed to ramble, in which case they are very easily raised. Those that survive, acquire all the familiarity of common chickens; and there is little doubt that if proper measures were taken, and persevered in for a few years, that they might be completely domesticated. They have been often kept during the first season, and through the whole of the winter, but have uniformly deserted in the spring. Two young Partridges that were brought up by a hen, when abandoned by her, associated with the cows, which they regularly followed to the fields, returned with them when they came home in the evening, stood by them while they were milked, and again accompanied them to the pasture. These remained during the winter, lodging in the stable, but as soon as spring came they disappeared. Of this fact I was informed by a very respectable lady, by whom they were particularly observed.

It has been frequently asserted to me, that the Quails lay occasionally in each other's nests. Though I have never myself seen a case of this kind, I do not think it altogether improbable, from the fact, that they have often been known to drop their eggs in the nest of the common hen, when that happened to be in the fields, or at a small distance from the house. The two Partridges above mentioned were raised in this manner; and it was particularly remarked by the lady, who gave me the information, that the hen sat for several days after her own eggs were hatched, until the young Quails made their appearance.

The Partridge, on her part, has sometimes been employed to hatch the eggs of the common domestic hen. A friend of mine, who himself

made the experiment, informs me, that of several hen's eggs which he substituted in place of those of the Partridge, she brought out the whole; and that for several weeks he occasionally surprised her in various parts of the plantation, with her brood of *chickens*; on which occasions she exhibited all that distressful alarm, and practised her usual manœuvres for their preservation. Even after they were considerably grown, and larger than the Partridge herself, she continued to lead them about; but though their notes, or call, were those of common chickens, their manners had all the shyness, timidity and alarm of young Partridges; running with great rapidity, and squatting in the grass exactly in the manner of the Partridge. Soon after this they disappeared, having probably been destroyed by dogs, by the gun, or by birds of prey. Whether the domestic fowl might not by this method be very soon brought back to its original savage state, and thereby supply another additional subject for the amusement of the sportsman, will scarcely admit of a doubt. But the experiment, in order to secure its success, would require to be made in a quarter of the country less exposed than ours to the ravages of guns, traps, dogs, and the deep snows of winter, that the new tribe might have full time to become completely naturalized, and well fixed in all their native habits.

About the beginning of September, the Quails being now nearly full grown, and associated in flocks, or coveys, of from four or five to thirty, afford considerable sport to the gunner. At this time the notes of the male are most frequent, clear and loud. His common call consists of two notes, with sometimes an introductory one, and is similar to the sound produced by pronouncing the words "Bob White." This call may be easily imitated by whistling, so as to deceive the bird itself, and bring it near. While uttering this he is usually perched on a rail of the fence, or on a low limb of an apple-tree, where he will sometimes sit, repeating at short intervals "Bob White," for half an hour at a time. When a covey are assembled in a thicket or corner of a field, and about to take wing, they make a low twittering sound, not unlike that of young chickens; and when the covey is dispersed, they are called together again by a loud and frequently repeated note, peculiarly expressive of tenderness and anxiety.

The food of the Partridge consists of grain, seeds, insects, and berries of various kinds. Buckwheat and Indian corn are particular favorites. In September and October the buckwheat fields afford them an abundant supply, as well as a secure shelter. They usually roost at night in the middle of a field on high ground; and from the circumstance of their dung being often found in such places, in one round heap, it is generally conjectured that they roost in a circle, with their heads outwards, each individual in this position forming a kind of guard to prevent

surprise. They also continue to lodge for several nights in the same spot.

The Partridge, like all the rest of the gallinaceous order, flies with a loud whirring sound, occasioned by the shortness, concavity, and rapid motion of its wings, and the comparative weight of its body. The steadiness of its horizontal flight, however, renders it no difficult mark to the sportsman, particularly when assisted by his sagacious pointer. The flesh of this bird is peculiarly white, tender and delicate, unequalled, in these qualities, by that of any other of its genus in the United States.

The Quail, as it is called in New England, or the *Partridge*, as in Pennsylvania, is nine inches long, and fourteen inches in extent; the bill is black; line over the eye, down the neck, and whole chin, pure white, bounded by a band of black, which descends and spreads broadly over the throat; the eye is dark hazel; crown, neck, and upper part of the breast, red brown; sides of the neck spotted with white and black, on a reddish brown ground; back, scapulars and lesser coverts, red brown, intermixed with ash, and sprinkled with black; tertials edged with yellowish white; wings plain dusky; lower part of the breast and belly pale yellowish white; beautifully marked with numerous curving spots or arrow heads of black; tail ash, sprinkled with reddish brown; legs very pale ash.

The female differs in having the chin and sides of the head yellowish brown, in which dress it has been described as a different kind. There is, however, only one species of Quail at present known within the United States.

INTRODUCTION

TO

THE WATER BIRDS.

WE now enter upon the second grand division of our subject, WATER BIRDS; and on that particular class, or order, usually denominated *Grallæ*, or Waders. Here a new assemblage of scenery, altogether different from the former, presents itself for our contemplation. Instead of rambling through the leafy labyrinths of umbrageous groves, fragrance-breathing orchards, fields and forests, we must now descend into the watery morass, and mosquito-swamp; traverse the windings of the river, the rocky cliffs, bays and inlets of the sea-beat shore, listening to the wild and melancholy screams of a far different multitude; a multitude less intimate indeed with man, though not less useful; as they contribute liberally to his amusement, to the abundance of his table, the warmth of his bed, and the comforts of his repose.

In contemplating the various, singular and striking peculiarities of these, we shall everywhere find traces of an infinitely wise and beneficent Creator. In every deviation of their parts from the common conformation of such as are designed for the land alone, we may discover a wisdom of design never erring, never failing in the means it provides for the accomplishment of its purpose. Instead therefore of imitating the wild presumption, or rather profanity, of those who have censured as rude, defective or deformed, whatever, in those and other organized beings, accorded not with their narrow conceptions; let it be ours to search with humility into the *intention* of those particular conformations; and thus, entering as it were into the designs of the Deity, we shall see in every part of the work of his hands abundant cause to exclaim with the enraptured poet of nature,

“O Wisdom infinite! Goodness immense!
And Love that passeth knowledge!”

In the present volume, the greater part of such of the Waders as belong to the territories of the United States, will be found delineated

and described. This class naturally forms an intermediate link between the Land Birds and the Web-footed, partaking, in their form, food and habits, of the characters of both; and equally deserving of our regard and admiration. Though formed for traversing watery situations, often in company with the Swimmers, they differ from these last in one circumstance common to Land Birds, the separation of the toes nearly to their origin; and in the habit of seldom venturing beyond their depth. On the other hand, they are furnished with legs of extraordinary length, bare for a considerable space above the knees, by the assistance of which they are enabled to walk about in the water in pursuit of their prey, where the others are obliged to swim; and also with necks of corresponding length, by means of which they can search the bottom for food, where the others must have recourse to diving. The bills of one family (the Herons) are strong, sharp pointed, and of considerable length; while the flexibility of the neck, the rapidity of its action, and remarkable acuteness of sight, wonderfully fit them for watching, striking, and securing their prey. Those whose food consists of more feeble and sluggish insects, that lie concealed deeper in the mud, are provided with bills of still greater extension, the rounded extremity of which possesses such nice sensibility, as to enable its possessor to detect its prey the instant it comes in contact with it, though altogether beyond the reach of sight.

Other families of this same order, formed for traversing the sandy sea-beach in search of small shell-fish that lurk just below the surface, have the bills and legs necessarily shorter; but their necessities requiring them to be continually on the verge of the flowing or retreating wave, the activity of their motions forms a striking contrast with the patient habits of the Heron tribe, who sometimes stand fixed and motionless, for hours together, by the margin of the pool or stream, watching to surprise their scaly prey.

Some few again, whose favorite food lies at the soft oozy bottoms of shallow pools, have the bill so extremely slender and delicate, as to be altogether unfit for penetrating either the muddy shores, or sandy sea-beach; though excellently adapted for its own particular range, where lie the various kinds of food destined for their subsistence. Of this kind are the *Arosets* of the present volume, who not only wade with great activity in considerably deep water; but having the feet nearly half-webbed, combine in one the characters of both wader and swimmer.

It is thus, that by studying the living manners of the different tribes in their native retreats, we not only reconcile the singularity of some parts of their conformation with Divine wisdom; but are enabled to comprehend the reason of many others, which the pride of certain closet naturalists has arraigned as lame, defective and deformed.

One observation more may be added: the migrations of this class of

birds are more generally known and acknowledged than that of most others. Their comparatively large size and immense multitudes, render their regular periods of migration (so strenuously denied to some others) notorious along the whole extent of our sea-coast. Associating, feeding, and travelling together in such prodigious and noisy numbers, it would be no less difficult to conceal their arrival, passage and departure, than that of a vast army through a thickly peopled country. Constituting also, as many of them do, an article of food and interest to man, he naturally becomes more intimately acquainted with their habits and retreats, than with those feeble and minute kinds, which offer no such inducement, and perform their migrations with more silence in scattered parties, unheeded or overlooked. Hence many of the Waders can be traced from their summer abodes, the desolate regions of Greenland and Spitzbergen, to the fens and seashores of the West India Islands and South America, the usual places of their winter retreat, while those of the Purple Martin and common Swallow still remain, *in vulgar belief*, wrapped up in all the darkness of mystery.

PHILADELPHIA, March 1st, 1819.

DIV. II. AVES AQUATICÆ. WATER BIRDS.

ORDER VII. GRALLÆ. WADERS.

GENUS LXIV. PLATALEA. SPOONBILL.

SPECIES. *P. AJAJA*.

ROSEATE SPOONBILL.

[Plate LXIII. Fig. 1.]

Arct. Zool. No. 338.—LATH. *Syn.* III., p. 16, No. 2.—*La Spatule couleur de Rose*,
BRISS. *Orn.* v., p. 356, 2, pl. 30.—*Pl. Enl.* p. 116.—BUFF. VII., 456.

THIS stately and elegant bird inhabits the seashores of America, from Brazil to Georgia. It also appears to wander up the Mississippi sometimes in summer, the specimen from which the figure in the plate was drawn having been sent me from the neighborhood of Natchez, in excellent order; for which favor I am indebted to the family of my late benevolent and scientific friend, William Dunbar, Esq., of that territory.

This species, however, is rarely seen to the northward of the Alatomaha river; and even along the Peninsula of Florida is a scarce bird. In Jamaica, several other of the West India Islands, Mexico, and Guiana, it is more common, but confines itself chiefly to the seashore, and the mouths of rivers. Captain Henderson says, it is frequently seen at Honduras. It wades about in quest of shell-fish, marine insects, small crabs and fish. In pursuit of these, it occasionally swims and dives.

There are few facts on record relative to this very singular bird. It is said that the young are of a blackish chestnut the first year; of the roseate color of the present the second year; and of a deep scarlet the third.*

Having never been so fortunate as to meet with them in their native wilds, I regret my present inability to throw any farther light on their history and manners. These, it is probable, may resemble, in many respects, those of the European species, the *White Spoonbill*, once so

* Latham.

common in Holland.* To atone for this deficiency, I have endeavored faithfully to delineate the figure of this American species, and may perhaps resume the subject, in some future part of the present work.

The Roseate Spoonbill, now before us, measured two feet six inches in length, and near four feet in extent; the bill was six inches and a half long, from the corner of the mouth, seven from its upper base, two inches over at its greatest width, and three-quarters of an inch where narrowest; of a black color for half its length, and covered with hard scaly protuberances, like the edges of oyster shells: these are of a whitish tint, stained with red; the nostrils are oblong, and placed in the centre of the upper mandible; from the lower end of each nostril there runs a deep groove along each side of the mandible, and about a quarter of an inch from its edge; whole crown and chin bare of plumage, and covered with a greenish skin: that below the under mandible dilatable, as in the genus *Pelicanus*; space round the eye orange; irides blood red: cheeks and hind head a bare black skin; neck long, covered with short white feathers, some of which, on the upper part of the neck, are tipped with crimson; breast white, the sides of which are tinged with a brown burnt-color; from the upper part of the breast proceeds a long tuft of fine hair-like plumage, of a pale rose color; back white, slightly tinged with brownish; wings a pale wild-rose color, the shafts lake; the shoulders of the wings are covered with long hairy plumage of a deep and splendid earmine; upper and lower tail coverts the same rich red; belly rosy; rump paler; tail equal at the end, consisting of twelve feathers, of a bright brownish orange, the shafts reddish; legs, and naked part of the thighs, dark dirty red; feet half webbed; toes very long, particularly the hind one. The upper part of the neck had the plumage partly worn away, as if occasioned by resting it on the back, in the manner of the Ibis. The skin on the crown is a little wrinkled; the inside of the wing a much richer red than the outer.

* The European species breeds on trees, by the seaside; lays three or four white eggs, powdered with a few pale red spots, and about the size of those of a hen; are very noisy during breeding time; feed on fish, muscles, &c., which, like the Bald Eagle, they frequently take from other birds, frightening them by plattering their bill; they are also said to eat grass, weeds, and roots of reeds: they are migratory: their flesh reported to savor of that of a goose; the young are reckoned good food.

GENUS LXIX. ARDEA. HERON.

SPECIES I. *A. MINOR.*

AMERICAN BITTERN.

[Plate LXV. Fig. 3.]

Le Butor de la Baye d'Hudson, BRISS. v., p. 449, 25.—BUFF. vii., p. 430.—EDW. 136, var. *A.*—LATH. *Syn.* iii., p. 58.

THIS is a nocturnal species, common to all our sea and river marshes, though nowhere numerous; it rests all day among the reeds and rushes, and unless disturbed, flies and feeds only during the night. In some places it is called the Indian Hen, on the sea coast of New Jersey it is known by the name of *Dunkadoo*, a word probably imitative of its common note. They are also found in the interior, having myself killed one at the inlet of the Seneca Lake, in October. It utters at times a hollow guttural note among the reeds; but has nothing of that loud booming sound for which the European Bittern is so remarkable. This circumstance, with its great inferiority of size, and difference of marking, sufficiently prove them to be two distinct species, although hitherto the present has been classed as a mere *variety* of the European Bittern. These birds, we are informed, visit Severn river, at Hudson's Bay, about the beginning of June; make their nests in swamps, laying four cinereous-green eggs among the long grass. The young are said to be at first black.

These birds, when disturbed, rise with a hollow *kwa*, and are then easily shot down, as they fly heavily. Like other night birds their sight is most acute during the evening twilight; but their hearing is at all times exquisite.

The American Bittern is twenty-seven inches long, and three feet four inches in extent; from the point of the bill to the extremity of the toes it measures three feet; the bill is four inches long, the upper mandible black, the lower greenish yellow; lores and eyelids yellow; irides bright yellow; upper part of the head flat, and remarkably depressed; the plumage there is of a deep blackish brown, long behind and on the neck, the general color of which is a yellowish brown shaded with darker; this long plumage of the neck the bird can throw forward at will, when irritated, so as to give him a more formidable appearance;

throat whitish, streaked with deep brown; from the posterior and lower part of the auriculars a broad patch of deep black passes diagonally across the neck, a distinguished characteristic of this species; the back is deep brown barred and mottled with innumerable specks and streaks of brownish yellow; quills black, with a leaden gloss, and tipped with yellowish brown; legs and feet yellow, tinged with pale green; middle claw pectinated; belly light yellowish brown streaked with darker, vent plain, thighs sprinkled on the outside with grains of dark brown; male and female nearly alike, the latter somewhat less. According to Bewick, the tail of the European Bittern contains only ten feathers; the American species has invariably twelve. The intestines measured five feet six inches in length, and were very little thicker than a common knitting-needle; the stomach is usually filled with fish or frogs.

This bird when fat is considered by many to be excellent eating.

SPECIES II. *ARDEA CÆRULEA*.

BLUE CRANE, OR HERON.

[Plate LXII. Fig. 3.]

Arct. Zool. No. 351.—CATESBY, I., 76.—*Le Crabier bleu*, BUFF. VII., 398.—SLOAN. *Jam.* II., 315.—LATH. *Syn.* III., p. 78, No. 45, p. 79, var. A.—*Ardea cærulescens*, TURT. *Syst.* p. 379.*

IN mentioning this species in his translation of the *Systema Naturæ*, Turton has introduced what he calls two *varieties*, one from New Zealand, the other from Brazil; both of which, if we may judge by their size and color, appear to be entirely different and distinct species; the first being green with yellow legs, the last nearly one half less than the present. By this loose mode of discrimination, the precision of science being altogether dispensed with, the whole tribe of Cranes, Herons, and Bitterns may be styled mere *varieties* of the genus *Ardea*. The same writer has still farther increased this confusion, by designating as a different species his *Bluish Heron* (*A. cærulescens*), which agrees almost exactly with the present. Some of these mistakes may probably have originated from the figure of this bird given by Catesby, which appears to have been drawn and colored, not from nature, but from the glimmering recollections of memory, and is extremely erroneous. These remarks are due to truth, and necessary to the elucidation of the history of his species, which seems to be but imperfectly known in Europe.

The Blue Heron is properly a native of the warmer climates of the

* *Heron bleuâtre de Cayenne*, BUFF. *Pl. Enl.* 349, adult.

United States, migrating thence, at the approach of winter, to the tropical regions; being found in Cayenne, Jamaica, and Mexico. On the muddy shores of the Mississippi, from Baton Rouge downwards to New Orleans, these birds are frequently met with. In spring they extend their migrations as far north as New England, chiefly in the vicinity of the sea; becoming more rare as they advance to the north. On the seabeach of Cape May, I found a few of them breeding among the cedars, in company with the Snowy Heron, Night Heron, and Green Bittern. The figure and description of the present were taken from two of these, shot in the month of May, while in complete plumage. Their nests were composed of small sticks, built in the tops of the red cedars, and contained five eggs of a light blue color, and of somewhat a deeper tint than those of the Night Heron. Little or no difference could be perceived between the colors and markings of the male and female. This remark is applicable to almost the whole genus; though from the circumstance of many of the yearling birds differing in plumage, they have been mistaken for females.

The Blue Heron, though in the Northern States it is found chiefly in the neighborhood of the ocean, probably on account of the greater temperature of the climate, is yet particularly fond of fresh water bogs, on the edges of the salt marsh. These it often frequents, wading about in search of tadpoles, lizards, various larvæ of winged insects, and mud worms. It moves actively about in search of these, sometimes making a run at its prey; and is often seen in company with the Snowy Heron, figured in the same plate. Like this last, it is also very silent, intent and watchful.

The genus *Ardea* is the most numerous of all the wading tribes, there being no less than ninety-six different species enumerated by late writers. These are again subdivided into particular families, each distinguished by a certain peculiarity. The Cranes, by having the head bald; the Storks, with the orbits naked; and the Herons, with the middle claw pectinated. To this last belong the Bitterns. Several of these are nocturnal birds, feeding only as the evening twilight commences, and reposing either among the long grass and reeds, or on tall trees, in sequestered places, during the day. What is very remarkable, those night wanderers often associate, during the breeding season, with the others; building their nests on the branches of the same tree; and, though differing so little in external form, feeding on nearly the same food, living and lodging in the same place; yet preserve their race, language, and manners as perfectly distinct from those of their neighbors, as if each inhabited a separate quarter of the globe.

The Blue Heron is twenty-three inches in length, and three feet in extent; the bill is black, but from the nostril to the eye, in both mandibles, is of a rich light purplish blue; iris of the eye gray, pupil black.

surrounded by a narrow silvery ring; eyelid light blue; the whole head and greater part of the neck, is of a deep purplish brown; from the crested hind-head shoot three narrow pointed feathers, that reach nearly six inches beyond the eye; lower part of the neck, breast, belly and whole body, a deep slate color, with lighter reflections; the back is covered with long, flat, and narrow feathers, some of which are ten inches long, and extend four inches beyond the tail; the breast is also ornamented with a number of these long slender feathers; legs blackish green; inner side of the middle claw pectinated. The breast and sides of the rump, under the plumage, are clothed with a mass of yellowish white unelastic cottony down, similar to that in most of the tribe, the uses of which are not altogether understood. Male and female alike in color.

The young birds of the first year are destitute of the purple plumago on the head and neck.

SPECIES III. *ARDEA HERODIAS*.

GREAT HERON.

[Plate LXV. Fig. 2.]

Le Heron huppé de Virginie, BRISS. V., p. 416, 10.—*Le Grand Heron d'Amérique*, BUFF. VII., p. 385.—*Larger crested Heron*, CATESB. *App. pl.* 10, fig. 1.—LATH. *Syn.* III., p. 85.—*Arct. Zool.* No. 341.

THE history of this large and elegant bird having been long involved in error and obscurity,* I have taken more than common pains to present a faithful portrait of it in this place; and to add to that every fact and authentic particular relative to its manners which may be necessary to the elucidation of the subject.

The Great Heron is a constant inhabitant of the Atlantic coast from New York to Florida; in deep snows and severe weather seeking the open springs of the cedar and cypress swamps, and the muddy inlets occasionally covered by the tides. On the higher inland parts of the country, beyond the mountains, they are less numerous; and

* Latham says of this species, that "all the upper parts of the body, the belly, tail and legs are brown;" and this description has been repeated by every subsequent compiler. Buffon, with his usual eloquent absurdity, describes the Heron as "exhibiting the picture of wretchedness, anxiety and indigence; condemned to struggle perpetually with misery and want; sickened with the restless cravings of a famished appetite;" a description so ridiculously untrue, that, were it possible for these birds to comprehend it, would excite the risibility of the whole tribe.

one which was shot in the upper parts of New Hampshire, was described to me as a great curiosity. Many of their breeding places occur in both Carolinas, chiefly in the vicinity of the sea. In the lower parts of New Jersey they have also their favorite places for building, and rearing their young. These are generally in the gloomy solitudes of the tallest cedar swamps, where, if unmolested, they continue annually to breed for many years. These swamps are from half a mile to a mile in breadth, and sometimes five or six in length, and appear as if they occupied the former channel of some choked up river, stream, lake, or arm of the sea. The appearance they present to a stranger is singular. A front of tall and perfectly straight trunks, rising to the height of fifty or sixty feet without a limb, and crowded in every direction, their tops so closely woven together as to shut out the day, spreading the gloom of perpetual twilight below. On a near approach they are found to rise out of the water, which from the impregnation of the fallen leaves and roots of the cedars, is of the color of brandy. Amidst this bottom of congregated springs, the ruins of the former forest lie piled in every state of confusion. The roots, prostrate logs, and in many places the water, are covered with green mantling moss, while an undergrowth of laurel, fifteen or twenty feet high, intersects every opening so completely, as to render a passage through laborious and harassing beyond description; at every step you either sink to the knees, clamber over fallen timber, squeeze yourself through between the stubborn laurels, or plunge to the middle in ponds made by the uprooting of large trees, and which the green moss concealed from observation. In calm weather the silence of death reigns in these dreary regions; a few interrupted rays of light shoot across the gloom; and unless for the occasional hollow screams of the Herons, and the melancholy chirping of one or two species of small birds, all is silence, solitude and desolation. When a breeze rises, at first it sighs mournfully through the tops; but as the gale increases, the tall mast-like cedars wave like fishing poles, and rubbing against each other, produce a variety of singular noises, that, with the help of a little imagination, resemble shrieks, groans, growling of bears, wolves and such like comfortable music.

On the tops of the tallest of these cedars the Herons construct their nests, ten or fifteen pair sometimes occupying a particular part of the swamp. The nests are large, formed of sticks, and lined with smaller twigs; each occupies the top of a single tree. The eggs are generally four, of an oblong pointed form, larger than those of a hen, and of a light greenish blue without any spots. The young are produced about the middle of May, and remain on the trees until they are full as heavy as the old ones, being extremely fat, before they are able to fly. They breed but once in the season. If disturbed in their breeding place,

the old birds fly occasionally over the spot, sometimes honking like a Goose, sometimes uttering a coarse hollow grunting noise like that of a hog, but much louder.

The Great Heron is said to be fat at the full moon, and lean at its decrease; this might be accounted for by the fact of their fishing regularly by moonlight through the greater part of the night, as well as during the day; but the observation is not universal, for at such times I have found some lean as well as others fat. The young are said to be excellent for the table, and even the old birds, when in good order, and properly cooked, are esteemed by many.

The principal food of the Great Heron is fish, for which he watches with the most unwearied patience, and seizes them with surprising dexterity. At the edge of the river, pond or seashore he stands fixed and motionless, sometimes for hours together. But his stroke is quick as thought, and sure as fate to the first luckless fish that approaches within his reach; these he sometimes beats to death, and always swallows head foremost, such being their uniform position in the stomach. He is also an excellent mouser, and of great service to our meadows in destroying the short-tailed or meadow mouse, so injurious to the banks. He also feeds eagerly on grasshoppers, various winged insects, particularly dragon flies, which he is very expert at striking, and also eats the seeds of that species of nymphæ usually called splatter docks, so abundant along our fresh water ponds and rivers.

The Heron has great powers of wing, flying sometimes very high, and to a great distance; his neck doubled, his head drawn in, and his long legs stretched out in a right line behind him, appearing like a tail, and probably serving the same rudder-like office. When he leaves the seacoast, and traces on wing the courses of the creeks or rivers upwards, he is said to prognosticate rain; when downwards, dry weather. He is most jealously vigilant and watchful of man, so that those who wish to succeed in shooting the Heron, must approach him entirely unseen, and by stratagem. The same inducements, however, for his destruction do not prevail here as in Europe. Our seashores and rivers are free to all for the amusement of fishing. Luxury has not yet constructed her thousands of fish ponds, and surrounded them with steel traps, spring guns, and Heron snares.* In our vast fens,

* "The Heron," says an English writer, "is a very great devourer of fish, and does more mischief in a pond than an otter. People who have kept Herons have had the curiosity to number the fish they feed them with, into a tub of water, and counting them again afterwards, it has been found that they will eat up fifty moderate dace and roaches in a day. It has been found that in carp ponds visited by this bird, one Heron will eat up a thousand store carp in a year; and will hunt them so close as to let very few escape. The readiest method of destroying this mischievous bird is by fishing for him in the manner of pike, with a baited hook.

meadows and sea marshes, this stately bird roams at pleasure, feasting on the never-failing magazines of frogs, fish, seeds and insects with which they abound, and of which he probably considers himself the sole lord and proprietor. I have several times seen the Bald Eagle attack and tease the Great Heron; but whether for sport, or to make him disgorge his fish, I am uncertain.

The common Heron of Europe (*Ardea major*) very much resembles the present, which might, as usual, have probably been ranked as the original stock, of which the present was a mere degenerated species, were it not that the American is greatly superior in size and weight to the European species, the former measuring four feet four inches, and weighing upwards of seven pounds; the latter three feet three inches, and rarely weighing more than four pounds. Yet with the exception of size, and the rust-colored thighs of the present, they are extremely alike. The common Heron of Europe, however, is not an inhabitant of the United States.

The Great Heron does not receive his full plumage during the first season, nor until the summer of the second. In the first season the young birds are entirely destitute of the white plumage of the crown, and the long pointed feathers of the back, shoulders, and breast. In this dress I have frequently shot them in autumn. But in the third year, both males and females have assumed their complete dress, and, contrary to all the European accounts which I have met with, both are then so nearly alike in color and markings, as scarcely to be distinguished from each other; both having the long flowing crest, and all the ornamental white pointed plumage of the back and breast. Indeed this sameness in the plumage of the males and females, when arrived at their perfect state, is a characteristic of the whole of the genus with which I am acquainted. Whether it be different with those of Europe, or that the young and imperfect birds have been hitherto mistaken for females I will not pretend to say, though I think the latter conjecture highly probable, as the Night Raven (*Ardea nycticorax*) has been known for several centuries, and yet in all their accounts the sameness of the colors and plumage of the male and female of that bird is nowhere men-

When the haunt of the Heron is found out, three or four small roach, or dace, are to be procured, and each of them is to be baited on a wire, with a strong hook at the end, entering the wire just at the gills, and letting it run just under the skin to the tail; the fish will live in this manner for five or six days, which is a very essential thing: for if it be dead, the Heron will not touch it. A strong line is then to be prepared of silk and wire twisted together, and is to be about two yards long; tie this to the wire that holds the hook, and to the other end of it there is to be tied a stone of about a pound weight; let three or four of these baits be sunk in different shallow parts of the pond, and in a night or two's time the Heron will not fail to be taken with one or other of them."

tioned; on the contrary, the young or yearling bird has been universally described as the female.

On the eighteenth of May I examined, both externally and by dissection, five specimens of the Great Heron, all in complete plumage, killed in a cedar swamp near the head of Tuckahoe river, in Cape May county, New Jersey. In this case the females could not be mistaken, as some of the eggs were nearly ready for exclusion.

Length of the Great Heron four feet four inches from the point of the bill to the end of the tail, and to the bottom of the feet five feet four inches; extent six feet; bill eight inches long, and one inch and a quarter in width, of a yellow color, in some blackish on the ridge, extremely sharp at the point, the edges also sharp, and slightly serrated near the extremity; space round the eye from the nostril, a light purplish blue; irides orange, brightening into yellow where they join the pupil; forehead and middle of the crown white, passing over the eye; sides of the crown and hind head deep slate or bluish black, and elegantly crested, the two long tapering black feathers being full eight inches in length; chin, cheeks, and sides of the head white for several inches; throat white, thickly streaked with double rows of black; rest of the neck brownish ash, from the lower part of which shoot a great number of long narrow pointed white feathers that spread over the breast and reach nearly to the thighs; under these long plumes the breast itself, and middle of the belly is of a deep blackish slate, the latter streaked with white; sides blue ash; vent white; thighs and ridges of the wings a dark purplish rust color; whole upper parts of the wings, tail, and body a fine light ash, the latter ornamented with a profusion of long narrow white tapering feathers, originating on the shoulders or upper part of the back, and falling gracefully over the wings; primaries very dark slate, nearly black; naked thighs brownish yellow; legs brownish black, tintured with yellow, and netted with seams of whitish; in some the legs are nearly black. Little difference could be perceived between the plumage of the males and females; the latter were rather less, and the long pointed plumes of the back were not quite so abundant.

The young birds of the first year have the whole upper part of the head of a dark slate; want the long plumes of the breast and back; and have the body, neck, and lesser coverts of the wings considerably tinged with ferruginous.

On dissection the gullet was found of great width, from the mouth to the stomach, which has not the two strong muscular coats that form the gizzard of some birds; it was more loose, of considerable and uniform thickness throughout, and capable of containing nearly a pint; it was entirely filled with fish, among which were some small eels, all placed head downwards; the intestines measured nine feet in length, were

scarcely as thick as a goose-quill, and incapable of being distended; so that the vulgar story of the Heron swallowing eels which passing suddenly through him are repeatedly swallowed, is absurd and impossible. On the external coat of the stomach of one of these birds, opened soon after being shot, something like a blood vessel lay in several meandering folds, enveloped in a membrane, and closely adhering to the surface. On carefully opening this membrane it was found to contain a large round living worm, eight inches in length; another of like length was found coiled in the same manner on another part of the external coat. It may also be worthy of notice, that the intestines of the young birds of the first season, killed in the month of October, when they were nearly as large as the others, measured only six feet four or five inches, those of the full grown ones from eight to nine feet in length.

SPECIES IV. *ARDEA EGRETTE*.*

GREAT WHITE HERON.

[Plate LXI. Fig. 4.]

THIS tall and elegant bird, though often seen, during the summer, in our low marshes and inundated meadows; yet, on account of its extreme vigilance, and watchful timidity, is very difficult to be procured. Its principal residence is in the regions of the south, being found from Guiana, and probably beyond the line, to New York. It enters the territories of the United States late in February; this I conjecture from having first met with it in the southern parts of Georgia about that time. The high inland parts of the country it rarely or never visits; its favorite haunts are vast inundated swamps, rice fields, the low marshy shores of rivers, and such like places; where, from its size and color, it is very conspicuous, even at a great distance.

The appearance of this bird, during the first season, when it is entirely destitute of the long flowing plumes of the back, is so different from the same bird in its perfect plumage, which it obtains in the third year, that naturalists and others very generally consider them as two distinct species. The opportunities which I have fortunately had, of observing them, with the train, in various stages of its progress, from its first appearance to its full growth, satisfies me that the Great White Heron with, and that without, the long plumes, are one and the same species, in different periods of age. In the museum of my friend Mr. Peale, there was a specimen of this bird, in which the train was wanting;

* *Ardea alba*, LINN. *Syst.* Ed. 10, p. 144.

but on a closer examination, its rudiments were plainly to be perceived, extending several inches beyond the common plumage.

The Great White Heron breeds in several of the extensive cedar swamps in the lower parts of New Jersey. Their nests are built on the trees, in societies; the structure and materials exactly similar to those of the Snowy Heron, but larger. The eggs are usually four, of a pale blue color. In the months of July and August, the young make their first appearance in the meadows and marshes, in parties of twenty or thirty together. The large ditches with which the extensive meadows below Philadelphia are intersected, are regularly, about that season, visited by flocks of those birds; these are frequently shot; but the old ones are too sagacious to be easily approached. Their food consists of frogs, lizards, small fish, insects, seeds of the splatter-dock (a species of *Nymphaea*), and small water snakes. They will also devour mice and moles, the remains of such having been at different times found in their stomachs.

The long plumes of these birds have at various periods been in great request, on the continent of Europe, particularly in France and Italy, for the purpose of ornamenting the female head-dress. When dyed of various colors, and tastefully fashioned, they form a light and elegant duster and mosquito brush. The Indians prize them for ornamenting their hair, or topknot; and I have occasionally observed these people wandering through the market place of New Orleans, with bunches of those feathers for sale.

The Great White Heron measures five feet from the extremities of the wings, and three feet six inches from the tip of the bill to the end of the tail; the train extends seven or eight inches farther. This train is composed of a great number of long, thick, tapering shafts, arising from the lower part of the shoulders, and thinly furnished on each side with fine flowing hair-like threads, of several inches in length, covering the lower part of the back, and falling gracefully over the tail, which it entirely conceals. The whole plumage is of a snowy whiteness, except the train, which is slightly tinged with yellow. The bill is nearly six inches in length, of a rich orange yellow, tipped with black; irides a paler orange, pupil small, giving the bird a sharp and piercing aspect; the legs are long, stout, and of a black color, as is the bare space of four inches above the knee; the span of the foot measures upwards of six inches; the inner edge of the middle claw is pectinated; the exterior and middle toes are united at the base for about half an inch, by a membrane.

The articulations of the vertebrae are remarkably long; the intestines measure upwards of eight feet, and are very narrow. The male and female are alike in plumage; both, when of full age, having the train equally long.

SPECIES V. *ARDEA VIRESCENS*.

GREEN HERON.

[Plate LXI. Fig. 1.]

Arct. Zool. No. 349.—CATESBY, I., 80.—*Le Crabier vert*, BUFF. VII., 404.—LATH
Syn. III., p. 68, No. 30.

THIS common and familiar species owes little to the liberality of public opinion, whose prejudices have stigmatized it with a very vulgar and indelicate nickname; and treat it on all occasions as worthless and contemptible. Yet few birds are more independent of man than this; for it fares best, and is always most numerous, where cultivation is least known or attended to; its favorite residence being the watery solitudes of swamps, pools and morasses, where millions of frogs and lizards “tune their nocturnal notes” in full chorus, undisturbed by the lords of creation.

The Green Bittern makes its first appearance in Pennsylvania early in April, soon after the marshes are completely thawed. There, among the stagnant ditches with which they are intersected, and amidst the bogs and quagmires, he hunts with great cunning and dexterity. Frogs and small fish are his principal game, whose caution, and facility of escape, require nice address, and rapidity of attack. When on the lookout for small fish, he stands in the water, by the side of the ditch, silent and motionless as a statue; his neck drawn in over his breast, ready for action. The instant a fry or minnow comes within the range of his bill, by a stroke quick and sure as that of the rattlesnake, he seizes his prey, and swallows it in an instant. He searches for small crabs, and for the various worms and larvæ, particularly those of the dragon-fly, which lurk in the mud, with equal adroitness. But the capturing of frogs requires much nicer management. These wary reptiles shrink into the mire on the least alarm, and do not raise up their heads again to the surface without the most cautious circumspection. The Bittern, fixing his penetrating eye on the spot where they disappeared, approaches with slow stealing step, laying his feet so gently and silently on the ground as not to be heard or felt; and when arrived within reach stands fixed, and bending forwards, until the first glimpse of the frog’s head makes its appearance, when, with a stroke instantaneous as lightning, he seizes it in his bill, beats it to death, and feasts on it at his leisure.

This mode of life, requiring little fatigue where game is so plenty, as is generally the case in all our marshes, must be particularly pleasing to the bird; and also very interesting, from the continual exercise of cunning and ingenuity necessary to circumvent its prey. Some of the naturalists of Europe, however, in their superior wisdom, think very differently; and one can scarcely refrain from smiling at the absurdity of those writers, who declare, that the lives of this whole class of birds are rendered miserable by toil and hunger; their very appearance, according to Buffon, presenting the image of suffering anxiety and indigence.*

When alarmed, the Green Bittern rises with a hollow guttural scream; does not fly far, but usually alights on some old stump, tree or fence adjoining, and looks about with extended neck; though sometimes this is drawn in so that his head seems to rest on his breast. As he walks along the fence, or stands gazing at you with outstretched neck, he has the frequent habit of jutting the tail. He sometimes flies high, with doubled neck, and legs extended behind, flapping the wings smartly, and travelling with great expedition. He is the least shy of all our Herons; and perhaps the most numerous and generally dispersed: being found far in the interior, as well as along our salt marshes; and everywhere about the muddy shores of our mill-ponds, creeks and large rivers.

The Green Bittern begins to build about the twentieth of April; sometimes in single pairs in swampy woods; often in companies; and not unfrequently in a kind of association with the *Qua-birds*, or Night Herons. The nest is fixed among the branches of the trees; is constructed wholly of small sticks, lined with finer twigs, and is of considerable size, though loosely put together. The female lays four eggs, of the common oblong form, and of a pale light blue color. The young do not leave the nest until able to fly; and for the first season, at least, are destitute of the long pointed plumage on the back; the lower parts are also lighter, and the white on the throat broader. During the whole summer, and until late in autumn, these birds are seen in our meadows and marshes, but never remain during winter in any part of the United States.

The Green Bittern is eighteen inches long, and twenty-five inches in extent; bill black, lighter below, and yellow at the base; chin and narrow streak down the throat yellowish white; neck dark vinaceous red; back covered with very long tapering pointed feathers, of a hoary green, shafted with white, on a dark green ground; the hind part of the neck is destitute of plumage, that it may be the more conveniently drawn in over the breast, but is covered with the long feathers of the throat, and

* Hist. Nat. des Oiseaux, tome xxii., p. 343.

sides of the neck that enclose it behind; wings and tail dark glossy green, tipped and bordered with yellowish white; legs and feet yellow, tinged before with green, the skin of these thick and movable; belly ashy brown; irides bright orange; crested head very dark glossy green. The female, as I have particularly observed, in numerous instances, differs in nothing as to color from the male; neither of them receive the long feathers on the back during the first season.

There is one circumstance attending this bird, which, I recollect, at first surprised me. On shooting and wounding one, I carried it some distance by the legs, which were at first yellow, but on reaching home, I perceived, to my surprise, that they were red. On letting the bird remain some time undisturbed, they again became yellow, and I then discovered that the action of the hand had brought a flow of blood into them, and produced the change of color. I have remarked the same in those of the Night Heron.

SPECIES VI. *ARDEA EXILIS*.

LEAST BITTERN.

[Plate LXV. Fig. 4.]

LATH. *Syn.* III., p. 66, No. 28.

THIS is the smallest known species of the whole tribe. It is commonly found in fresh water meadows, and rarely visits the salt marshes. One shot near Great Egg Harbor was presented to me as a very uncommon bird. In the meadows of Schuylkill and Delaware below Philadelphia, a few of these birds breed every year, making their nests in the thick tussocks of grass, in swampy places. When alarmed they seldom fly far, but take shelter among the reeds or long grass. They are scarcely ever seen exposed, but skulk during the day; and, like the preceding species, feed chiefly in the night.

This little creature measures twelve inches in length, and sixteen in extent; the bill is more than two inches and a quarter long, yellow, ridged with black, and very sharp pointed; space round the eye pale yellow; irides bright yellow; whole upper part of the crested head, the back, scapulars and tail very deep slate reflecting slight tints of green; throat white, here and there tinged with buff; hind part of the neck dark chestnut bay, sides of the neck, cheeks, and line over the eye brown buff; lesser wing-coverts the same; greater wing-coverts chestnut, with a spot of the same at the bend of the wing, the primary coverts

are also tipped with the same; wing quills dark slate; breast white, tinged with ochre, under which lie a number of blackish feathers; belly and vent white; sides pale ochre; legs greenish on the shins, hind part and feet yellow; thighs feathered to within a quarter of an inch of the knees, middle claw pectinated; toes tinged with pale green; feet large, the span of the foot measuring two inches and three quarters. Male and female nearly alike in color. The young birds are brown on the crown and back. The stomach was filled with small fish; and the intestines, which were extremely slender, measured in length about four feet.

The Least Bittern is also found in Jamaica and several of the West India Islands.

SPECIES VII. *ARDEA LUDOVICIANA*.

LOUISIANA HERON.

[Plate LXIV. Fig. 1.]

THIS is a rare and delicately formed species; occasionally found on the swampy river shores of South Carolina, but more frequently along the borders of the Mississippi, particularly below New Orleans. In each of these places it is migratory; and in the latter, as I have been informed, builds its nest on trees, amidst the inundated woods. Its manners correspond very much with those of the Blue Heron. It is quick in all its motions, darting about after its prey with surprising agility. Small fish, frogs, lizards, tadpoles, and various aquatic insects, constitute its principal food.

There is a bird described by Latham in his General Synopsis, vol. iii., p. 88, called the *Demi Egret*,* which from the account there given, seems to approach near to the present species. It is said to inhabit Cayenne.

Length of the Louisiana Heron from the point of the bill to the extremity of the tail twenty-three inches; the long hair-like plumage of the rump and lower part of the back extends several inches farther; the bill is remarkably long, measuring full five inches, of a yellowish green at the base, black towards the point, and very sharp; irides yellow; chin and throat white, dotted with ferruginous and some blue; the rest of the neck is of a light vinous purple, intermixed on the lower part next the breast with dark slate-colored plumage; the whole feathers

* See also Buffon, vol. vii., p. 378.

of the neck are long, narrow and pointed; head crested, consisting first of a number of long narrow purple feathers, and under these seven or eight pendent ones, of a pure white, and twice the length of the former; upper part of the back and wings light slate; lower part of the back and rump white, but concealed by a mass of long unwebbed hair-like plumage, that falls over the tail and tips of the wings, extending three inches beyond them; these plumes are of a dirty purplish brown at the base, and lighten towards the extremities to a pale cream color; the tail is even at the tip, rather longer than the wings, and of a fine slate; the legs and naked thighs greenish yellow; middle claw pectinated; whole lower parts pure white. Male and female alike in plumage, both being crested.

SPECIES VIII. *ARDEA NYCTICORAX*.

NIGHT HERON, OR QUA-BIRD.

[Plate LXI. Fig. 2.]

Arct. Zool. No. 356.—*Le Bihoreau*, BUFF. VII., 435, 439, tab. 22. *Pl. Enl.* 758, 759, 899.—*LATH. Syn.* v. 3, p. 52, No. 13, p. 53, Young, called there the Female.

THIS species, though common to both continents, and known in Europe for many centuries, has been so erroneously described by all the European naturalists, whose works I have examined, as to require more than common notice in this place. For this purpose, an accurate figure of the male is given, and also another of what has, till now, been universally considered the female, with a detail of so much of their history as I am personally acquainted with.

The Night Heron arrives in Pennsylvania early in April, and immediately takes possession of his former breeding place, which is usually the most solitary, and deeply shaded part of a cedar swamp. Groves of swamp-oak, in retired and inundated places, are also sometimes chosen; and the males not unfrequently select tall woods, on the banks of the river, to roost in during the day. These last regularly direct their course, about the beginning of evening twilight, towards the marshes, uttering, in a hoarse and hollow tone, the sound *qua*, which by some has been compared to that produced by the retchings of a person attempting to vomit. At this hour, also, all the nurseries in the swamps are emptied of their inhabitants, who disperse about the marshes, and along the ditches and river shore, in quest of food. Some of these breeding places have been occupied every spring and summer, for time immemorial, by from eighty to one hundred pairs of Qua-birds. In

places where the cedars have been cut down for sale, the birds have merely removed to another quarter of the swamp; but when personally attacked, long teased and plundered, they have been known to remove from an ancient breeding place, in a body, no one knew where. Such was the case with one on the Delaware, near Thompson's Point, ten or twelve miles below Philadelphia; which having been repeatedly attacked and plundered by a body of Crows, after many severe rencontres, the Herons finally abandoned the place. Several of these breeding places occur among the red-cedars on the seabeach of Cape May, intermixed with those of the Little White Heron, Green Bittern, and Blue Heron. The nests are built entirely of sticks, in considerable quantities, with frequently three and four nests on the same tree. The eggs are generally four in number, measuring two inches and a quarter in length, by one and three-quarters in thickness, and of a very pale light blue color. The ground, or marsh, below is bespattered with their excrements, lying all around like whitewash, with feathers, broken egg-shells, old nests, and frequently small fish, which they have dropped by accident and neglected to pick up.

On entering the swamp, in the neighborhood of one of these breeding places, the noise of the old and the young would almost induce one to suppose that two or three hundred Indians were choking or throttling each other. The instant an intruder is discovered, the whole rise in the air in silence, and remove to the tops of the trees in another part of the woods; while parties of from eight to ten make occasional circuits over the spot, to see what is going on. When the young are able, they climb to the highest part of the trees; but, knowing their inability, do not attempt to fly. Though it is probable that these nocturnal birds do not see well during the day, yet their faculty of hearing must be exquisite, as it is almost impossible, with all the precautions one can use, to penetrate near their residence, without being discovered. Several species of Hawks hover around, making an occasional sweep among the young; and the Bald Eagle himself has been seen reconnoitring near the spot, probably with the same design.

Contrary to the generally received opinion, the males and females of these birds are so alike in color, as scarcely to be distinguished from each other; both have also the long slender plumes that flow from the head. These facts I have exhibited by dissection on several subjects, to different literary gentlemen of my acquaintance, particularly to my venerable friend, Mr. William Bartram, to whom I have also often shown the young, represented at fig. 3. One of these last, which was kept for some time in the botanic garden of that gentleman, by its voice instantly betrayed its origin, to the satisfaction of all who examined it. These young certainly receive their full colored plumage before the succeeding spring, as on their first arrival no birds are to be seen in the

dress of fig. 3, but soon after they have bred, these become more numerous than the others. Early in October they migrate to the south. According to Buffon, these birds also inhabit Cayenne; and are found widely dispersed over Europe, Asia, and America. The European species, however, is certainly much smaller than the American; though, in other respects, corresponding exactly to it. Among a great number which I examined with attention, the following description was carefully taken from a common sized full grown male.

Length of the Night Heron two feet four inches, extent four feet; bill black, four inches and a quarter long, from the corners of the mouth to the tip; lores, or space between the eye and bill, a bare bluish white skin; eyelids also large and bare, of a deep purple blue; eye three quarters of an inch in diameter, the iris of a brilliant blood red, pupil black; crested crown and hind-head deep dark blue, glossed with green; front and line over the eye white; from the hind-head proceed three very narrow white tapering feathers, between eight and nine inches in length; the vanes of these are concave below, the upper one enclosing the next, and that again the lower; though separated by the hand, if the plumage be again shook several times, these long flowing plumes gradually enclose each other, appearing as one; these the bird has the habit of erecting when angry or alarmed; the cheeks, neck, and whole lower parts, are white, tintured with yellowish cream, and under the wings with very pale ash; back and scapulars of the same deep dark blue, glossed with green, as that of the crown; rump and tail coverts, as well as the whole wings and tail, very pale ash; legs and feet a pale yellow cream color; inside of the middle claw serrated.

The female differed in nothing as to plumage from the male, but in the wings being of rather a deeper ash; having not only the dark deep green-blue crown and back, but also the long pendent white plumes from the hind-head. Each of the females contained a large cluster of eggs, of various sizes.

The young (fig. 3) was shot soon after it had left the nest, and differed very little from those which had been taken from the trees, except in being somewhat larger. This measured twenty-one inches in length, and three feet in extent; the general color above a very deep brown, streaked with reddish white, the spots of white on the back and wings being triangular, from the centre of the feather to the tip; quills deep dusky, marked on the tips with a spot of white; eye vivid orange; belly white, streaked with dusky, the feathers being pale dusky, streaked down their centres with white; legs and feet light green; inside of the middle claw slightly pectinated; body and wings exceedingly thin and limber; the down still stuck in slight tufts to the tips of some of the feathers.

These birds also breed in great numbers in the neighborhood of New

Orleans, for being in that city in the month of June, I frequently observed the Indians sitting in market with the dead and living young birds for sale; also numbers of Gray Owls (*Strix nebulosa*), and the White Ibis (*Tantalus albus*), for which nice dainties I observed they generally found purchasers.

The food of the Night Heron or Qua-Bird, is chiefly composed of small fish, which it takes by night. Those that I opened had a large expansion of the gullet immediately under the bill, that narrowed thence to the stomach, which is a large oblong pouch, and was filled with fish. The teeth of the pectinated claw were thirty-five or forty in number, and as they contained particles of the down of the bird, showed evidently, from this circumstance, that they act the part of a comb, to rid the bird of vermin, in those parts which it cannot reach with its bill.

NOTE.—In those specimens which I have procured in the breeding season, I have taken notice that the lores and orbits were of a bluish white; but in a female individual, which I shot in East Florida, in the month of March, these parts were of a delicate violet color.

The Brown Bittern of Catesby (Vol. I., pl. 78), which has not a little confounded ornithologists, is undoubtedly the young of the Night Heron. Dr. Latham says of the former, “we believe it to be a female of the Green Heron.—They certainly differ,” continues he, “as Brisson has described them; but by comparison, no one can fail of being of the opinion here advanced.” If the worthy naturalist had had the same opportunities of comparing the two birds in question as we have had, he would have been as confident that they are not the same, as we are.—*G. Ord.*

SPECIES IX. *ARDEA CANDIDISSIMA*.

SNOWY HERON.*

[Plate LXII. Fig. 4.]

TURT. *Syst.* p. 380.—LATH. *Syn.* III., p. 92, No. 61.

THIS elegant species inhabits the seacoast of North America, from the Isthmus of Darien to the Gulf of St. Lawrence, and is, in the United States, a bird of passage; arriving from the south early in April, and leaving the Middle States again in October. Its general appearance, resembling so much that of the Little Egret of Europe, has, I doubt not, imposed on some of the naturalists of that country, as I confess it did on me.† From a more careful comparison, however, of both birds, I am satisfied that they are two entirely different and distinct species. These differences consist in the large flowing crest, yellow feet, and singularly curled plumes of the back of the present; it is also nearly double the size of the European species.

The Snowy Heron seems particularly fond of the salt marshes during summer; seldom penetrating far inland. Its white plumage renders it a very conspicuous object, either while on wing, or while wading the meadows or marshes. Its food consists of those small crabs, usually called *fiddlers*, mud worms, snails, frogs and lizards. It also feeds on the seeds of some species of nymphæ, and of several other aquatic plants.

On the nineteenth of May, I visited an extensive *breeding place* of the Snowy Heron, among the red cedars of Sommers' Beach, on the coast of Cape May. The situation was very sequestered, bounded on the land side by a fresh water marsh or pond, and sheltered from the Atlantic by ranges of sand hills. The cedars, though not high, were so closely crowded together, as to render it difficult to penetrate through among them. Some trees contained three, others four, nests, built wholly of sticks. Each had in it three eggs of a pale greenish blue color, and measuring an inch and three quarters in length, by an inch and a quarter in thickness. Forty or fifty of these eggs were cooked,

* Named in the plate, by mistake, the *Little Egret*.

† "On the American continent, the Little Egret is met with at New York and Long Island." LATH. III., p. 90.

and found to be well tasted; the white was of a bluish tint, and almost transparent, though boiled for a considerable time; the yolk very small in quantity. The birds rose in vast numbers, but without clamor, alighting on the tops of the trees around, and watching the result in silent anxiety. Among them were numbers of the Night Heron, and two or three Purple-headed Herons. Great quantities of egg shells lay scattered under the trees, occasioned by the depredations of the Crows, who were continually hovering about the place. On one of the nests I found the dead body of the bird itself, half devoured by the Hawks, Crows, or Gulls. She had probably perished in defence of her eggs.

The Snowy Heron is seen at all times, during summer, among the salt marshes, watching and searching for food; or passing, sometimes in flocks, from one part of the bay to the other. They often make excursions up the rivers and inlets; but return regularly, in the evening, to the red cedars on the beach, to roost. I found these birds on the Mississippi, early in June, as far up as Fort Adams, roaming about among the creeks, and inundated woods.

The length of this species is two feet one inch; extent three feet two inches; the bill is four inches and a quarter long, and grooved; the space from the nostril to the eye orange yellow, the rest of the bill black; irides vivid orange; the whole plumage is of a snowy whiteness; the head is largely crested with loose unwebbed feathers, nearly four inches in length; another tuft of the same covers the breast; but the most distinguished ornament of this bird is a bunch of long silky plumes, proceeding from the shoulders, covering the whole back, and extending beyond the tail: the shafts of these are six or seven inches long, extremely elastic, tapering to the extremities, and thinly set with long slender bending threads or fibres, easily agitated by the slightest motion of the air—these shafts curl upwards at the ends. When the bird is irritated, and erects those airy plumes, they have a very elegant appearance; the legs, and naked part of the thighs, are black; the feet bright yellow; claws black, the middle one pectinated.

The female can scarcely be distinguished by her plumage, having not only the crest, but all the ornaments of the male, though not quite so long and flowing.

The young birds of the first season are entirely destitute of the long plumes of the breast and back; but, as all those that were examined in spring were found crested and ornamented as above, they doubtless receive their full dress on the first moulting. Those shot in October measured twenty-two inches in length, by thirty-four in extent; the crest was beginning to form; the legs yellowish green, daubed with black; the feet greenish yellow; the lower mandible white at the base; the wings, when shut, nearly of a length with the tail, which is even at the end.

The Little Egret, or European species, is said by Latham and Turton to be nearly *a foot* in length; Bewick observes, that it rarely exceeds a foot and a half; has a much shorter crest, with *two* long feathers; the feet are black; and the long plumage of the back, instead of turning up at the extremity, falls over the rump.

The young of both these birds are generally very fat, and esteemed by some people as excellent eating.

NOTE.—Catesby represents the bill of this bird as red, and this error has been perpetuated by all succeeding ornithologists. The fact is, that the bills of young Herons are apt to assume a reddish tint after death, and this was evidently mistaken by Catesby for a permanent living color; and represented as such by an exaggeration common to almost all colorers of plates of Natural History. We have no hesitation in asserting that a Heron such as that figured by the author in question does not exist in the United States. That his Heron is identical with ours there can be no doubt, and we are equally satisfied that his specimen was a bird of the first year. So common did we find this species along the coasts of the Carolinas, Georgia and East Florida, during the winter, that they were to be seen every hour of the day, and were almost as tame as domestic fowls. A specimen shot in East Florida was twenty-one inches in length; the upper mandible, and tip of the lower, were black, base of the latter flesh colored, the remainder of bill yellow.—*G. Ord.*

SPECIES X. *ARDEA AMERICANA*.*

WHOOPING CRANE.

[Plate LXIV. Fig. 3.]

Arct. Zool. No. 339.—CATESB. I., 75.—LATH. III., p. 42.—*La Grue d'Amerique*,
BRISS. V., p. 382.—*Pl. Enl.* 889.†

THIS is the tallest and most stately species of all the feathered tribes of the United States; the watchful inhabitant of extensive salt marshes, desolate swamps, and open morasses, in the neighborhood of the sea. Its migrations are regular, and of the most extensive kind, reaching from the shores and inundated tracts of South America to the arctic circle. In these immense periodical journeys they pass at such a prodigious height in the air as to be seldom observed. They have, however, their resting stages on the route to and from their usual breeding places, the regions of the north. A few sometimes make their appearance in the marshes of Cape May, in December, particularly on and near Egg Island, where they are known by the name of *Storks*. The younger birds are easily distinguished from the rest by the brownness of their plumage. Some linger in these marshes the whole winter, setting out north about the time the ice breaks up. During their stay they wander along the marsh and muddy flats of the seashore in search of marine worms, sailing occasionally from place to place, with a low and heavy flight, a little above the surface; and have at such times a very formidable appearance. At times they utter a loud clear and piercing cry, which may be heard at the distance of two miles. They have also various modulations of this singular note, from the peculiarity of which they derive their name. When wounded they attack the gunner, or his dog, with great resolution; and have been known to drive their sharp and formidable bill, at one stroke, through a man's hand.

During winter they are frequently seen in the low grounds and rice plantations of the Southern States, in search of grain and insects. On the tenth of February I met with several near the Waccamau river, in South Carolina; I also saw a flock at the ponds near Louisville, Kentucky, on the twentieth of March. They are extremely shy and vigi-

* This bird belongs to the genus *Grus* of Pallas.

† *Grus Americana*, Ord's ed. vol. VIII., p. 20.

lant, so that it is with the greatest difficulty they can be shot. They sometimes rise in the air spirally to a great height, the mingled noise of their screaming, even when they are almost beyond the reach of sight, resembling that of a pack of hounds in full cry. On these occasions they fly around in large circles, as if reconnoitring the country to a vast extent for a fresh quarter to feed in. Their flesh is said to be well tasted, nowise savoring of fish. They swallow mice, moles, rats, &c., with great avidity. They build their nests on the ground, in tussocks of long grass, amidst solitary swamps, raise it to more than a foot in height, and lay two pale blue eggs, spotted with brown. These are much larger, and of a more lengthened form, than those of the common hen.

The Cranes are distinguished from the other families of their genus by the comparative baldness of their heads, the broad flag of plumage projecting over the tail, and in general by their superior size. They also differ in their internal organization from all the rest of the Heron tribe, particularly in the conformation of the windpipe, which enters the breast bone in a cavity fitted to receive it, and after several turns goes out again at the same place, and thence descends to the lungs. Unlike the Herons, they have not the inner side of the middle claw pectinated, and, in this species at least, the hind toe is short, scarcely reaching the ground.

The vast marshy flats of Siberia are inhabited by a Crane very much resembling the present, with the exception of the bill and legs being red; like those of the present, the year old birds are said also to be tawny.

It is highly probable that the species described by naturalists as the Brown Crane (*Ardea Canadensis*), is nothing more than the young of the Whooping Crane,* their descriptions exactly corresponding with the latter. In a flock of six or eight, three or four are usually of that tawny or reddish brown tint on the back, scapulars, and wing coverts, but are evidently yearlings of the Whooping Crane, and differ in nothing but in that and size from the others. They are generally five or six inches shorter, and the primaries are of a brownish cast.

The Whooping Crane is four feet six inches in length, from the point of the bill to the end of the tail, and when standing erect measures nearly five feet; the bill is six inches long, and an inch and a half in thickness, straight, extremely sharp, and of a yellowish brown color; the irides are yellow; the forehead, whole crown and cheeks are covered

* This is an error into which our author was led in consequence of never having seen a specimen of the bird in question (*Ardea Canadensis*, LINN.—*Grus Freti Hudsonis*, BRISS.). Peale's Museum contained a fine specimen, which was brought by the naturalists attached to Major Long's exploring party, who ascended the Missouri in the year 1820. Bartram calls this Crane the *Grus pratensis*. It is known to travellers by the name of Sandhill Crane.

with a warty skin thinly interspersed with black hairs; these become more thickly set towards the base of the bill; the hind head is of an ash color; the rest of the plumage pure white, the primaries excepted, which are black; from the root of each wing rise numerous large flowing feathers projecting over the tail and tips of the wings; the uppermost of these are broad, drooping, and pointed at the extremities, some of them are also loosely webbed, their silky fibres curling inwards like those of the Ostrich. They seem to occupy the place of the tertials. The legs and naked parts of the thigh are black, very thick and strong; the hind toe seems rarely or never to reach the hard ground, though it may probably assist in preventing the bird from sinking too deep in the mire.

SPECIES II. *ARDEA VIOLACEA*.

YELLOW-CROWNED HERON.

[Plate LXV. Fig. 1.]

LINN. *Syst.* I., p. 238, 16.—LATH. *Syn.* III., p. 80.—*Le Crabier de Bahama*, BRISS. V., 481, 41.—*Crested Bittern*, CATES. I., pl. 79.—*Le Crabier gris de fer*, BUFF. VII., p. 399.—*Arch. Zool.* No. 352.*

THIS is one of the nocturnal species of the Heron tribe, whose manners, place and mode of building its nest, resemble greatly those of the common Night Heron (*Ardea nycticorax*); the form of its bill is also similar. The very imperfect figure and description of this species by Catesby, seems to have led the greater part of European ornithologists astray, who appear to have copied their accounts from that erroneous source, otherwise it is difficult to conceive why they should either have given it the name of *yellow-crowned*, or have described it as being only fifteen inches in length; since the crown of the perfect bird is pure white, and the whole length very near two feet. The name however, erroneous as it is, has been retained in the present account, for the purpose of more particularly pointing out its absurdity, and designating the species.

This bird inhabits the lower parts of South Carolina, Georgia, and Louisiana, in the summer season; reposing during the day among low

* We add the following synonymes:—*Ardea violacea*, LATH. *Ind. Orn.* p. 690, No. 50.—*Ardea Cayenensis*, Id. p. 680, No. 17.—*Gen. Syn.* III., p. 80, No. 46.—*Cayenne Night Heron*, Id. p. 56, No. 16.—*Bihoreau de Cayenne*, Pl. *Enl.* 899.—*Ardea violacea*, GMEL. *Syst.* I., p. 631, No. 16.—*Ardea Cayenensis*, Id. p. 626, No 31.

swampy woods, and feeding only in the night. It builds in societies, making its nest with sticks among the branches of low trees, and lays four pale blue eggs. The species is not numerous in Carolina, which, with its solitary mode of life, makes this bird but little known there. It abounds on the Bahama Islands, where it also breeds, and great numbers of the young, as we are told, are yearly taken for the table, being accounted in that quarter excellent eating. This bird also extends its migrations into Virginia, and even farther north; one of them having been shot a few years ago on the borders of the Schuylkill below Philadelphia.

The food of this species consists of small fish, crabs and lizards, particularly the former; it also appears to have a strong attachment to the neighborhood of the ocean.

The Yellow-crowned Heron is twenty-two inches in length, from the point of the bill to the end of the tail; the long flowing plumes of the back extend four inches farther; breadth from tip to tip of the expanded wings thirty-four inches; bill black, stout, and about four inches in length, the upper mandible grooved exactly like that of the common Night Heron; lores pale green; irides fiery red; head and part of the neck black, marked on each cheek with an oblong spot of white; crested crown and upper part of the head white, ending in two long narrow tapering plumes of pure white, more than seven inches long; under these are a few others of a blackish color; rest of the neck and whole lower parts fine ash, somewhat whitish on that part of the neck where it joins the black; upper parts a dark ash, each feather streaked broadly down the centre with black, and bordered with white; wing quills deep slate, edged finely with white; tail even at the end, and of the same ash color; wing coverts deep slate, broadly edged with pale cream; from each shoulder proceed a number of long loosely webbed tapering feathers, of an ash color, streaked broadly down the middle with black, and extending four inches or more beyond the tips of the wings; legs and feet yellow; middle claw pectinated. Male and female, as in the common Night Heron, alike in plumage.

I strongly suspect that the species called by naturalists the *Cayenne Night Heron* (*Ardea Cayanensis*), is nothing more than the present, with which, according to their descriptions, it seems to agree almost exactly.

GENUS LXX. TANTALUS. IBIS.

SPECIES I. TANTALUS LOCULATOR.

WOOD IBIS.

[Plate LXVI. Fig. 1.]

Le grand Courli d'Amérique, BRISS. v. 358, 8.—*Couricaca*, BUFF. vii., p. 276, *Pl. Enl.* 868.—CATESB. I., 81.—*Arct. Zool.* No. 360.—LATH. *Syn.* iii., p. 104.

THE Wood Ibis inhabits the lower parts of Louisiana, Carolina, and Georgia; is very common in Florida, and extends as far south as Cayenne, Brazil, and various parts of South America. In the United States it is migratory; but has never, to my knowledge, been found to the north of Virginia. Its favorite haunts are watery savannahs and inland swamps, where it feeds on fish and reptiles. The French inhabitants of Louisiana esteem it good eating.

With the particular manners of this species I am not personally acquainted; but the following characteristic traits are given of it by Mr. William Bartram, who had the best opportunities of noting them.

"This solitary bird," he observes, "does not associate in flocks; but is generally seen alone, commonly near the banks of great rivers, in vast marshes or meadows, especially such as are covered by inundations, and also in the vast deserted rice plantations; he stands alone, on the topmost limb of tall dead cypress trees, his neck contracted or drawn in upon his shoulders, his beak resting like a long scythe upon his breast; in this pensive posture, and solitary situation, they look extremely grave, sorrowful and melancholy, as if in the deepest thought. They are never seen on the seacoast, and yet are never found at a great distance from it. They feed on serpents, young alligators, frogs, and other reptiles."*

The figure of this bird given in the plate was drawn from a very fine specimen, sent from Georgia by Stephen Elliott, Esq., of Beaufort, South Carolina; its size and markings were as follow:

Length three feet two inches; bill nearly nine inches long, straight for half its length, thence curving downwards to the extremity, and full two inches thick at the base, where it rises high in the head, the whole of a brownish horn color: the under mandible fits into the upper in its

* Travels, &c., p. 150.

whole length, and both are very sharp edged; face and naked head and part of the neck dull greenish blue, wrinkled; eye large, seated high in the head; irides dark red; under the lower jaw is a loose corrugated skin, or pouch, capable of containing about half a pint; whole body, neck and lower parts white; quills dark glossy green and purple; tail about two inches shorter than the wings, even at the end, and of a deep and rich violet; legs and naked thighs dusky green; feet and toes yellowish sprinkled with black; feet almost semipalmated and bordered to the claws with a narrow membrane; some of the greater wing coverts are black at the root, and shafted with black; plumage on the upper ridge of the neck generally worn, as in the present specimen, with rubbing on the back, while in its common position of resting its bill on its breast, in the manner of the White Ibis (see fig. 3).

The female has only the head and chin naked; both are subject to considerable changes of color when young; the body being found sometimes blackish above, the belly cinereous, and spots of black on the wing coverts; all of which, as the birds advance in age, gradually disappear, and leave the plumage of the body, &c., as has been described.

SPECIES II. *TANTALUS RUBER.*

SCARLET IBIS.

[Plate LXVI. Fig. 2.]

Le Courli rouge du Brésil, BRISS. v., p. 344, 12, fig. 1, 2.—BUFF. VIII., p. 35.—*Red Curlew*, CATESBY, I., 84.—LATH. III., p. 106.—*Arct. Zool.* No. 361.*

THIS beautiful bird is found in the most southern parts of Carolina; also in Georgia and Florida, chiefly about the seashore and its vicinity. In most parts of America within the tropics, and in almost all the West India Islands it is said to be common; also in the Bahamas. Of its manners little more has been collected than that it frequents the borders of the sea and shores of the neighboring rivers, feeding on small fry, shell fish, sea worms and small crabs. It is said frequently to perch on trees, sometimes in large flocks; but to lay its eggs on the ground on a bed of leaves. The eggs are described as being of a greenish color;

* We add the following synonymes:—*Tantalus Ruber*, LATH. *Ind. Orn.* p. 703, No. 2.—*T. fuscus*, Id. p. 705, No. 8.—GMEL. *Syst.* I., p. 651, No. 5, No. 7.—*Le Courli brun du Brésil*, BRISS. v., p. 341.—*Brown Curlew*, CATESBY, I. 83, young.—*Courli rouge du Brésil, de l'age de deux ans*, Pl. *Enl.* 80.—Id. *de l'age de trois ans*, 81

the young when hatched black, soon after gray, and before they are able to fly white, continuing gradually to assume their red color until the third year, when the scarlet plumage is complete. It is also said that they usually keep in flocks, the young and old birds separately. They have frequently been domesticated. One of them which lived for some time in the museum of this city, was dexterous at catching flies, and most usually walked about, on that pursuit, in the position in which it is represented in the plate.

The Scarlet Ibis measures twenty-three inches in length, and thirty-seven in extent; the bill is five inches long, thick, and somewhat of a square form at the base, gradually bent downwards and sharply ridged, of a black color, except near the base, where it inclines to red; irides dark hazel; the naked face is finely wrinkled, and of a pale red; chin also bare and wrinkled for about an inch; whole plumage a rich glowing scarlet, except about three inches of the extremities of the four outer quill feathers, which are of a deep steel blue; legs and naked part of thighs pale red, the three anterior toes united by a membrane as far as the first joint.

Whether the female differs in the color of her plumage from the male, or what changes both undergo during the first and second years, I am unable to say from personal observation. Being a scarce species with us, and only found on our most remote southern shores, a sufficient number of specimens have not been procured to enable me to settle this matter with sufficient certainty.

NOTE.—It would appear that this species inhabits the western coast of America. In the Appendix to the History of Lewis and Clark's Expedition, Vol. II., p. 514, under date of March 7, the Journalist says, "A bird of a scarlet color, as large as a common pheasant, with a long tail, has returned; one of them was seen to-day near the fort." As all long legged birds fly with their legs in a horizontal position, the legs of that above mentioned must have been mistaken for a tail.—*G. Ord.*

SPECIES III. *TANTALUS ALBUS.*

WHITE IBIS.

[Plate LXVI. Fig. 3.]

Le Courli blanc du Brésil, BRISS. V., p. 339, 10.—BUFF. VIII., p. 41.—*Courly blanc d'Amérique*, PL. ENL. 915.—*White Curlew*, CATESBY, I., pl. 82.—LATH. SYN. III., p. 111, No. 9.—ARCT. ZOO. No. 363.*

THIS species bears in every respect, except that of color, so strong a resemblance to the preceding, that I have been almost induced to believe it the same, in its white or imperfect stage of color. The length and form of the bill, the size, conformation, as well as color of the legs, the general length and breadth, and even the steel blue on the four outer quill feathers, are exactly alike in both. These suggestions, however, are not made with any certainty of its being the same; but as circumstances which may lead to a more precise examination of the subject hereafter.

I found this species pretty numerous on the borders of Lake Pontchartrain, near New Orleans, in the month of June, and also observed the Indians sitting in market with strings of them for sale. I met with them again on the low keys or islands off the peninsula of Florida. Mr. Bartram observes that "they fly in large flocks or squadrons, evening and morning, to and from their feeding places or roosts, and are usually called Spanish Curlews. They feed chiefly on cray fish, whose cells they probe, and with their strong pinching bills drag them out." The low islands above mentioned abound with these creatures and small crabs, the ground in some places seeming alive with them, so that the rattling of their shells against one another was incessant. My venerable friend, in his observations on these birds adds, "It is a pleasing sight at times of high winds, and heavy thunder storms, to observe the numerous squadrons of these Spanish Curlews, driving to and fro, turning and tacking about high up in the air, when by their various evolutions in the different and opposite currents of the wind, high in the clouds, their silvery white plumage gleams and sparkles like the brightest crystal, reflecting the sunbeams that dart upon them between the dark clouds."

* *Tantalus albus*, LATH. IND. ORN. p. 705, No. 9.—GMEL. SYST. p. 651, No. 6.

The White Ibis is twenty-three inches long, and thirty-seven inches in extent; bill formed exactly like that of the scarlet species, of a pale red, blackish towards the point; face a reddish flesh color and finely wrinkled; irides whitish; whole plumage pure white, except about four inches of the tips of the four outer quill feathers, which are of a deep and glossy steel blue; legs and feet pale red, webbed to the first joint.

These birds I frequently observed standing on the dead limbs of trees, and on the shore, resting on one leg, their body in an almost perpendicular position, as represented in the figure, the head and bill resting on the breast. This appears to be its most common mode of resting, and perhaps sleeping, as in all those which I examined the plumage on the upper ridge of the neck and upper part of the back, was evidently worn by this habit. The same is equally observable on the neck and back of the Wood Ibis.

The present species rarely extends its visits north of Carolina, and even in that state is only seen for a few weeks towards the end of summer. In Florida they are common; but seldom remove to any great distance from the sea.

GENUS LXXI. NUMENIUS. CURLEW.

SPECIES I. *N. LONGIROSTRIS*.

LONG-BILLED CURLEW.

[Plate LXIV. Fig. 4.]

THIS American species has been considered by the naturalists of Europe to be a mere *variety* of their own, notwithstanding its difference of color, and superior length of bill. These differences not being accidental, or found in a few individuals, but common to all, and none being found in America corresponding with that of Europe, we do not hesitate to consider the present as a distinct species, peculiar to this country.

Like the preceding, this bird is an inhabitant of marshes in the vicinity of the sea. It is also found in the interior; where, from its long bill and loud whistling note, it is generally known.

The Curlews appear in the salt marshes of New Jersey about the middle of May, on their way to the north; and in September, on their return from their breeding places. Their food consists chiefly of small crabs, which they are very dexterous at probing for, and pulling out of

the holes with their long bills; they also feed on those small sea snails so abundant in the marshes, and on various worms and insects. They are likewise fond of bramble berries, frequenting the fields and uplands in search of this fruit, on which they get very fat, and are then tender and good eating, altogether free from the sedgy taste with which their flesh is usually tainted while they feed in the salt marshes.

The Curlews fly high, generally in a wedge-like form; somewhat resembling certain Ducks; occasionally uttering their loud whistling note, by a dexterous imitation of which a whole flock may sometimes be enticed within gunshot, while the cries of the wounded are sure to detain them until the gunner has made repeated shots and great havoc among them.

This species is said to breed in Labrador, and in the neighborhood of Hudson's Bay. A few instances have been known of one or two pair remaining in the salt marshes of Cape May all summer. A person of respectability informed me, that he once started a Curlew from her nest, which was composed of a little dry grass, and contained four eggs, very much resembling in size and color those of the Mud Hen, or Clapper Rail. This was in the month of July. Cases of this kind are so rare, that the northern regions must be considered as the general breeding place of this species.

The Long-billed Curlew is twenty-five inches in length, and three feet three inches in extent, and when in good order weighs about thirty ounces; but individuals differ greatly in this respect; the bill is eight inches long, nearly straight for half its length, thence curving considerably downwards to its extremity, where it ends in an obtuse knob that overhangs the lower mandible; the color black, except towards the base of the lower, where it is of a pale flesh color; tongue extremely short, differing in this from the Snipe; eye dark; the general color of the plumage above is black, spotted and barred along the edge of each feather with pale brown; chin, line over the eye and round the same, pale brownish white; neck reddish brown, streaked with black; spots on the breast more sparingly dispersed; belly, thighs and vent pale plain rufous, without any spots; primaries black on the outer edges, pale brown on the inner, and barred with black; shaft of the outer one snowy; rest of the wing pale reddish brown, elegantly barred with undulating lines of black; tail slightly rounded, of an ashy brown, beautifully marked with herring-bones of black; legs and naked thighs very pale light blue or lead color, the middle toe connected with the two outer ones as far as the first joint by a membrane, and bordered along the sides with a thick warty edge; lining of the wing dark rufous, approaching a chestnut, and thinly spotted with black. Male and female alike in plumage. The bill continues to grow in length until the second season, when the bird receives its perfect plumage. The

stomach of this species is lined with an extremely thick skin, feeling to the touch like the rough hardened palm of a sailor or blacksmith. The intestines are very tender, measuring usually about three feet in length, and as thick as a Swan's quill. On the front, under the skin, there are two thick callosities, which border the upper side of the eye, lying close to the skull. These are common, I believe, to most of the *Tringa* and *Scelopax* tribes, and are probably designed to protect the skull from injury while the bird is probing and scratching in the sand and mud.

NOTE.—This species was observed by Lewis and Clark as high up as the sources of the Missouri. On the twenty-second June they found the females were sitting: the eggs, which are of a pale blue, with black specks, were laid upon the bare ground. *Hist. of the Exped. vol. I. p. 279, 8vo.*

SPECIES II. *N. BOREALIS*.*

ESQUIMAUX CURLEW.

[Plate LVI. Fig. 1.]

Arct. Zool. p. 461, No. 364.—*LATH. III.*—*TURT. Syst.* p. 392.

IN prosecuting our researches among the feathered tribes of this extensive country, we are at length led to the shores of the ocean, where a numerous and varied multitude, subsisting on the gleanings of that vast magazine of nature, invite our attention; and from their singularities and numbers, promise both amusement and instruction. These we shall, as usual, introduce in the order we chance to meet with them in their native haunts. Individuals of various tribes, thus promiscuously grouped together, the peculiarities of each will appear more conspicuous and striking, and the detail of their histories less formal as well as more interesting.

The Esquimaux Curlew, or as it is called by our gunners on the sea-coast, the Short-billed Curlew, is peculiar to the new continent. Mr. Pennant, indeed, conceives it to be a mere variety of the English Whimbrel (*S. Phaeopus*); but among the great numbers of these birds which I have myself shot and examined, I have never yet met with one corresponding to the descriptions given of the *Whimbrel*, the colors and markings being different, the bill much more bent, and nearly an inch and a half longer; and the manners in certain particulars very

* Wilson erroneously arranged this in the following genus, *Scelopax*.

different: these reasons have determined its claim to that of an independent species.

The Short-billed Curlew arrives in large flocks on the seacoast of New Jersey early in May from the south; frequents the salt marshes, muddy shores and inlets, feeding on small worms and minute shell-fish. They are most commonly seen on mud flats at low water, in company with various other waders; and at high water roam along the marshes. They fly high, and with great rapidity. A few are seen in June, and as late as the beginning of July, when they generally move off towards the north. Their appearance on these occasions is very interesting: they collect together from the marshes as if by premeditated design, rise to a great height in the air, usually about an hour before sunset, and forming in one vast line, keep up a constant whistling on their march to the north, as if conversing with one another to render the journey more agreeable. Their flight is then more slow and regular, that the feeblest may keep up with the line of march, while the glittering of their beautifully speckled wings, sparkling in the sun, produces altogether a very pleasant spectacle.

In the month of June, while the dewberries are ripe, these birds sometimes frequent the fields in company with the Long-billed Curlews, where brambles abound, soon get very fat, and are at that time excellent eating. Those who wish to shoot them, fix up a shelter of brushwood in the middle of the field, and by that means kill great numbers. In the early part of spring, and indeed during the whole time that they frequent the marshes, feeding on shell-fish, they are much less esteemed for the table.

Pennant informs us, that they were seen in flocks innumerable on the hills about Chatteux Bay, on the Labrador coast, from August the 9th to September 6th, when they all disappeared, being on their way from their northern breeding place.—He adds, “they kept on the open grounds, fed on the *empetrum nigrum*, and were very fat and delicious.” They arrive at Hudson’s Bay in April, or early in May; pair and breed to the north of Albany Fort among the woods, return in August to the marshes, and all disappear in September.* About this time they return in accumulated numbers to the shores of New Jersey, whence they finally depart for the south early in November.

The Esquimaux Curlew is eighteen inches long and thirty-two inches in extent; the bill, which is four inches and a half long, is black towards the point, and a pale purplish flesh color near the base; upper part of the head dark brown, divided by a narrow stripe of brownish white; over each eye extends a broad line of pale drab; iris dark colored; hind part of the neck streaked with dark brown, fore part,

* Phil. Trans. LXII., 411.

and whole breast, very pale brown; upper part of the body pale drab, centered and barred with dark brown, and edged with spots of white on the exterior vanes; three first primaries black, with white shafts; rump and tail-coverts barred with dark brown; belly white; vent the same, marked with zigzag lines of brown; whole lining of the wing beautifully barred with brown on a dark cream ground; legs and naked thighs a pale lead color.

The figure of this bird, and of all the rest in the same plate, are reduced to exactly one-half the size of life.

NOTE.—Mr. Ord, in his reprint of the 8th vol., expresses his doubts of this species being the Esquimaux Curlew (*N. borealis*) of Dr. Latham; as this ornithologist states his bird to be only thirteen inches in length, and in breadth twenty-one; and the bill two inches in length.

Prince Musignano, in his observations on the nomenclature of Wilson's Ornithology, states that he has ascertained the *N. borealis*, LATH., to be a distinct species, and promises to figure it in his American Ornithology. He considers Wilson's bird (*N. borealis*) to be the *N. Hudsonicus* of Latham.

GENUS LXXII. SCOLOPAX. SNIPE.

SPECIES I. *SCOLOPAX FEDOA*.*

GREAT MARBLED GODWIT.

[Plate LVI. Fig. 4, Female.]

Arct. Zool. p. 456, No. 371.—*La Barge rousse de Baie de Hudson*, BUFF. VII., 507.†

THIS is another transient visitant of our seacoasts in spring and autumn, to and from its breeding place in the north. Our gunners call it the *Straight-billed Curlew*, and sometimes the *Red Curlew*.‡ It is a shy, cautious, and watchful bird; yet so strongly are they attached to each other, that on wounding one in a flock, the rest are immediately arrested in their flight, making so many circuits over the spot where it lies fluttering and screaming, that the sportsman often makes great destruction among them. Like the Curlew, they may also be enticed within shot, by imitating their call or whistle; but can seldom be ap-

* This bird belongs to the genus *Limosa* of Brisson.

† *Scolopax Fedoa*, LINN. *Syst.* ed. 10, p. 146, No. 8. *S. hæmastica*? Id. p. 147, No. 14.—EDWARDS, pl. 137, 138.—*Limosa rufa*, BRISS. V., p. 281, pl. 25, fig. 1.

‡ It is better known under the name of *Merline*.

proached without some such manœuvre. They are much less numerous than the Short-billed Curlews, with whom, however, they not unfrequently associate. They are found among the salt marshes in May, and for some time in June, and also on their return in October and November; at which last season they are usually fat, and in high esteem for the table.

The female of this bird having been described by several writers as a distinct species from the male, it has been thought proper to figure the former; the chief difference consists in the undulating bars of black with which the breast of the male is marked, and which are wanting in the female.

The male of the Great Marbled Godwit is nineteen inches long, and thirty-four inches in extent; the bill is nearly six inches in length, a little turned up towards the extremity, where it is black, the base is of a pale purplish flesh color; chin and upper part of the throat whitish; head and neck mottled with dusky brown and black on a ferruginous ground; breast barred with wavy lines of black; back and scapulars black, marbled with pale brown; rump and tail-coverts of a very light brown, barred with dark brown; tail even, except the two middle feathers, which are a little the longest; wings pale ferruginous, elegantly marbled with dark brown, the four first primaries black on the outer edge; whole lining and lower parts of the wings bright ferruginous; belly and vent light rust color, with a tinge of lake.

The female differs in wanting the bars of black on the breast. The bill does not acquire its full length before the third year.

About fifty different species of the *Scolopax* genus are enumerated by naturalists. These are again by some separated into three classes or sub-genera, viz.: the straight-billed, or Snipes; those with bills bent downwards, or the Curlews; and those whose bills are slightly turned upwards, or Godwits. The whole are a shy, timid and solitary tribe, frequenting those vast marshes, swamps and morasses, that frequently prevail in the vicinity of the ocean, and on the borders of large rivers. They are also generally migratory, on account of the periodical freezing of those places in the northern regions where they procure their food. The Godwits are particularly fond of salt marshes; and are rarely found in countries remote from the sea.

SPECIES II. *SCOLOPAX MINOR*.

WOODCOCK.

[Plate XLVIII. Fig. 2.]

Arct. Zool. p. 463, No. 365.—*TURT. Syst.* 396.*

THIS bird, like the preceding,† is universally known to our sportsmen. It arrives in Pennsylvania early in March, sometimes sooner; and I doubt not but in mild winters some few remain with us the whole of that season. During the day, they keep to the woods and thickets, and at the approach of evening seek the springs, and open watery places, to feed in. They soon disperse themselves over the country to breed. About the beginning of July, particularly in long-continued hot weather, they descend to the marshy shores of our large rivers, their favorite springs and watery recesses, inland, being chiefly dried up. To the former of these retreats they are pursued by the merciless sportman, flushed by dogs, and shot down in great numbers. This species of amusement, when eagerly followed, is still more laborious and fatiguing than that of Snipe-shooting; and from the nature of the ground, or cripple as it is usually called, viz., deep mire, intersected with old logs, which are covered and hid from sight by high reeds, weeds and alder bushes, the best dogs are soon tired out; and it is customary with sportsmen, who regularly pursue this diversion, to have two sets of dogs, to relieve each other alternately.

The Woodcock usually begins to lay in April. The nest is placed on the ground, in a retired part of the woods, frequently at the root of an old stump. It is formed of a few withered leaves, and stalks of grass, laid with very little art. The female lays four, sometimes five, eggs, about an inch and a half long, and an inch or rather more in diameter, tapering suddenly to the small end. These are of a dun clay color, thickly marked with spots of brown, particularly at the great end, and interspersed with others of a very pale purple. The nest of the Woodcock has, in several instances that have come to my knowledge, been found with eggs in February; but its usual time of beginning to

* *Scolopax minor*, LATH. *Ind. Orn.* p. 714, No. 2. *Gen. Syn.* 3, p. 131.

† That is, the common Rail, which precedes the Woodcock in the original edition.

lay is early in April. In July, August and September, they are considered in good order for shooting.

The Woodcock is properly a nocturnal bird, feeding chiefly at night, and seldom stirring about till after sunset. At such times, as well as in the early part of the morning, particularly in spring, he rises by a kind of spiral course, to a considerable height in the air, uttering at times a sudden *quack*, till having gained his utmost height, he hovers around in a wild irregular manner, making a sort of murmuring sound; then descends with rapidity as he rose. When uttering his common note on the ground, he seems to do it with difficulty, throwing his head towards the earth, and frequently jetting up his tail. These notes and manœuvres are most usual in spring, and are the call of the male to his favorite female. Their food consists of various larvæ, and other aquatic worms, for which, during the evening, they are almost continually turning over the leaves with their bill; or searching in the bogs. Their flesh is reckoned delicious, and prized highly. They remain with us till late in autumn; and on the falling of the first snows, descend from the ranges of the Alleghany, to the lower parts of the country, in great numbers; soon after which, viz., in November, they move off to the south.

This bird, in its general figure and manners, greatly resembles the Woodcock of Europe, but is considerably less, and very differently marked below, being an entirely distinct species. A few traits will clearly point out their differences. The lower parts of the European Woodcock are thickly barred with dusky waved lines, on a yellowish white ground. The present species has those parts of a bright ferruginous. The male of the American species weighs from five to six ounces, the female eight: the European twelve. The European Woodcock makes its first appearance in Britain in October and November, that country being in fact only its winter quarters; for early in March they move off to the northern parts of the continent to breed. The American species, on the contrary, winters in countries south of the United States, arrives here early in March, extends its migrations as far, at least, as the river St. Lawrence, breeds in all the intermediate places, and retires again to the south on the approach of winter. The one migrates from the torrid to the temperate regions; the other from the temperate to the arctic. The two birds, therefore, notwithstanding their names are the same, differ not only in size and markings, but also in native climate. Hence the absurdity of those who would persuade us, that the Woodcock of America crosses the Atlantic to Europe, and *vice versa*. These observations have been thought necessary, from the respectability of some of our own writers, who seem to have adopted this opinion.

How far to the north our Woodcock is found, I am unable to say. It

is not mentioned as a bird of Hudson's Bay; and being altogether unknown in the northern parts of Europe, it is very probable that its migrations do not extend to a very high latitude; for it may be laid down as a general rule, that those birds which migrate to the arctic regions in either continent, are very often common to both. The head of the Woodcock is of singular conformation, large, somewhat triangular, and the eye fixed at a remarkable distance from the bill, and high in the head. This construction was necessary to give a greater range of vision, and to secure the eye from injury while the owner is searching in the mire. The flight of the Woodcock is slow. When flushed at any time in the woods, he rises to the height of the bushes or underwood, and almost instantly drops behind them again at a short distance, generally running off for several yards as soon as he touches the ground. The notion that there are two species of Woodcock in this country probably originated from the great difference of size between the male and female, the latter being considerably the larger.

The male Woodcock is ten inches and a half long, and sixteen inches in extent; bill a brownish flesh color, black towards the tip, the upper mandible ending in a slight knob, that projects about one-tenth of an inch beyond the lower,* each grooved, and in length somewhat more than two inches and a half; forehead, line over the eye, and whole lower parts, reddish tawny; sides of the neck inclining to ash; between the eye and bill a slight streak of dark brown; crown, from the forepart of the eye backwards, black, crossed by three narrow bands of brownish white; cheeks marked with a bar of black, variegated with light brown; edges of the back, and of the scapulars, pale bluish white; back and scapulars deep black, each feather tipped or marbled with light brown and bright ferruginous, with numerous fine zigzag lines of black crossing the lighter parts; quills plain dusky brown; tail black, each feather marked along the outer edge with small spots of pale brown, and ending in narrow tips of a pale drab color above, and silvery white below; lining of the wing bright rust; legs and feet a pale reddish flesh color; eye very full and black, seated high, and very far back in the head; weight five ounces and a half, sometimes six.

The female is twelve inches long, and eighteen in extent; weighs eight ounces; and differs also in having the bill very near three inches in length; the black on the back is not quite so intense; and the sides under the wings are slightly barred with dusky.

The young Woodcocks, of a week or ten days old, are covered with

* Mr. Pennant (*Arct. Zool.* p. 463), in describing the American Woodcock, says, that the lower mandible is much shorter than the upper. From the appearance of his figure, it is evident that the specimen from which that and his description were taken, had lost nearly half an inch from the lower mandible, probably broken off by accident. Turton and others have repeated this mistake.

down of a brownish white color, and are marked from the bill, along the crown to the hind-head, with a broad stripe of deep brown; another line of the same passes through the eyes to the hind-head, curving under the eye; from the back to the rudiments of the tail runs another of the same tint, and also on the sides under the wings; the throat and breast are considerably tinged with rufous; and the quills, at this age, are just bursting from their light blue sheaths, and appear marbled as in the old birds; the legs and bill are of a pale purplish ash color, the latter about an inch long. When taken, they utter a long, clear, but feeble *peep*, not louder than that of a mouse. They are far inferior to young Partridges in running and skulking; and should the female unfortunately be killed, may easily be taken on the spot.

SPECIES III. *SCOLOPAX GALLINAGO*.*

S N I P E.

[Plate XLVII. Fig. 1.]

THIS bird is well known to our sportsmen; and, if not the same, has a very near resemblance to the common Snipe of Europe. It is usually known by the name of the *English Snipe*, to distinguish it from the Woodcock, and from several others of the same genus. It arrives in Pennsylvania about the tenth of March, and remains in the low grounds for several weeks; the greater part then move off to the north, and to the higher inland districts to breed. A few are occasionally found, and consequently breed, in our low marshes during the summer. When they first arrive, they are usually lean; but when in good order are accounted excellent eating. They are, perhaps, the most difficult to shoot of all our birds, as they fly in sudden zigzag lines, and very rapidly. Great numbers of these birds winter in the rice grounds of the Southern States, where, in the month of February, they appeared to be much tamer than they are usually here, as I frequently observed

* In consequence of Wilson's doubts, whether this bird was the *S. Gallinago* or not, he gave no synonymes. The Prince of Musignano, convinced that it was a distinct species, adopted for it the name of *Brehmii*, under the impression that it was identical with the Snipe lately discovered in Germany, and described under the above-mentioned name. It appears to be neither the *Gallinago* nor the *Brehmii*, but a bird peculiar to our country: In Mr. Ord's supplement to Wilson's Ornithology, it is classed under the name of *Scolopax delicata*.

them running about among the springs and watery thickets. I was told by the inhabitants, that they generally disappeared early in the spring. On the twentieth of March I found these birds extremely numerous on the borders of the ponds near Louisville, Kentucky; and also in the neighborhood of Lexington in the same state, as late as the tenth of April. I was told by several people, that they are abundant in the Illinois country, up as far as Lake Michigan. They are but seldom seen in Pennsylvania during the summer, but are occasionally met with in considerable numbers on their return in autumn, along the whole eastern side of the Alleghany, from the sea to the mountains. They have the same soaring irregular flight in the air in gloomy weather as the Snipe of Europe; the same bleating note, and occasional rapid descent; spring from the marshes with the like feeble *squeak*; and in every respect resemble the common Snipe of Britain, except in being about an inch less; and in having sixteen feathers in the tail instead of fourteen, the number said by Bewick to be in that of Europe. From these circumstances, we must either conclude this to be a different species, or partially changed by difference of climate; the former appears to me the more probable opinion of the two.

These birds abound in the meadows, and low grounds, along our large rivers, particularly those that border the Schuylkill and Delaware, from the tenth of March to the middle of April, and sometimes later, and are eagerly sought after by many of our gunners. The nature of the grounds, however, which these birds frequent, the coldness of the season, and peculiar shyness and agility of the game, render this amusement attractive only to the most dexterous, active, and eager of our sportsmen.

The Snipe is eleven inches long, and seventeen inches in extent; the bill is more than two inches and a half long, fluted lengthwise, of a brown color, and black towards the tip, where it is very smooth while the bird is alive, but soon after it is killed becomes dimpled like the end of a thimble; crown black, divided by an irregular line of pale brown; another broader one of the same tint passes over each eye; from the bill to the eye there is a narrow dusky line; neck, and upper part of the breast, pale brown, variegated with touches of white and dusky; chin pale; back and scapulars deep velvety black, the latter elegantly marbled with waving lines of ferruginous, and broadly edged exteriorly with white; wings plain dusky, all the feathers, as well as those of the coverts, tipped with white; shoulder of the wing deep dusky brown, exterior quill edged with white; tail-coverts long, reaching within three-quarters of an inch of the tip, and of a pale rust color spotted with black; tail rounded, deep black, ending in a bar of bright ferruginous, crossed with a narrow waving line of black, and tipped with whitish; belly pure white; sides barred with dusky; legs and feet

a very pale ashy green; sometimes the whole thighs, and sides of the vent, are barred with dusky and white, as in the figure in the plate.

The female differs in being more obscure in her colors; the white on the back being less pure, and the black not so deep.

SPECIES IV. *SCOLOPAX NOVEBORACENSIS*.

RED-BREASTED SNIPE.

[Plate LVIII. Fig. 1.]

Arct. Zool. p. 464, No. 368.*

THIS bird has a considerable resemblance to the common Snipe, not only in its general form, size and colors, but likewise in the excellence of its flesh, which is in high estimation. It differs, however, greatly from the common Snipe in its manners, and in many other peculiarities, a few of which, as far as I have myself observed, may be sketched as follows. The Red-breasted Snipe arrives on the seacoast of New Jersey early in April; is seldom or never seen inland: early in May it proceeds to the north to breed, and returns by the latter part of July, or beginning of August. During its stay here it flies in flocks, sometimes very high, and has then a loud and shrill whistle, making many evolutions over the marshes; forming, dividing, and reuniting. They sometimes settle in such numbers, and so close together, that eighty-five have been shot at one discharge of a musket. They spring from the marshes with a loud twirling whistle, generally rising high, and making several circuitous manœuvres in air, before they descend. They frequent the sand-bars, and mud-flats, at low water, in search of food; and being less suspicious of a boat than of a person on shore, are easily approached by this medium, and shot down in great numbers. They usually keep by themselves, being very numerous; are in excellent order for the table in September; and on the approach of winter retire to the south.

I have frequently amused myself with the various action of these birds. They fly very rapidly, sometimes wheeling, coursing and doubling along the surface of the marshes; then shooting high in air, there separating; and forming in various bodies, uttering a kind of quivering whistle. Among many which I opened in May, were several

* We add the following synonyms:—*Scolopax noveboracensis*, LATH. *Ind. Orn.* p. 723, No. 32.—*S. grisea*, id. p. 724, No. 33. TEMM. *Man. d'Orn.* p. 679. GMEI. *Syst.* p. 658, No. 27, adult in winter plumage. *S. noveboracensis*, Id. p. 658, No. 28, adult in summer plumage.

females, that had very little rufous below, and the backs were also much lighter, and less marbled with ferruginous. The eggs contained in their ovaries were some of them as large as garden peas. Their stomachs contained masses of those small snail shells that lie in millions on the salt marshes: the wrinkles at the base of the bill, and the red breast, are strong characters of this species, as also the membrane which unites the outer and middle toes together.

The Red-breasted Snipe is ten inches and a half long, and eighteen inches in extent; the bill is about two inches and a quarter in length, straight, grooved, black towards the point, and of a dirty eelskin color at the base, where it is tumid and wrinkled; lores dusky; cheeks and eyebrows pale yellowish white, mottled with specks of black; throat and breast a reddish buff color; sides white, barred with black; belly and vent white, the latter barred with dusky; crown, neck above, back, scapulars and tertials, black, edged, mottled and marbled with yellowish white, pale and bright ferruginous, much in the same manner as the common Snipe; wings plain olive, the secondaries centered and bordered with white; shaft of the first quill very white; rump, tail-coverts and tail (which consists of twelve feathers) white, thickly spotted with black; legs and feet dull yellowish green; outer toe united to the middle one by a small membrane; eye very dark. The female, which is paler on the back, and less ruddy on the breast, has been described by Mr. Pennant as a separate species.*

These birds doubtless breed not far to the northward of the United States, if we may judge from the lateness of the season when they leave us in spring; the largeness of the eggs in the ovaries of the females before they depart, and the short period of time they are absent. Of all our sea-side Snipes it is the most numerous, and the most delicious for the table.

From these circumstances and the crowded manner in which it flies and settles, it is the most eagerly sought after by our gunners, who send them to market in great numbers.

* See his Brown Snipe, *Arct. Zool.* No. 369.

SPECIES V. *SCOLOPAX SEMIPALMATA*.*

SEMIPALMATED SNIPE.

[Plate LVI. Fig. 3.]

Arct. Zool. p. 469, No. 380.†

THIS is one of the most noisy and noted birds that inhabit our salt marshes in summer. Its common name is the *Willet*, by which appellation it is universally known along the shores of New York, New Jersey, Delaware and Maryland, in all of which places it breeds in great numbers.

The Willet is peculiar to America. It arrives from the south, on the shores of the Middle States, about the twentieth of April, or beginning of May; and from that time to the last of July, its loud and shrill reiterations of *Pill-will-willet*, *Pill-will-willet*, resound, almost incessantly, along the marshes; and may be distinctly heard at the distance of more than half a mile. About the twentieth of May the Willets generally begin to lay.‡ Their nests are built on the ground, among the grass of the salt marshes, pretty well towards the land, or cultivated fields, and are composed of wet rushes and coarse grass, forming a slight hollow or cavity in a tussock. This nest is gradually increased during the period of laying and sitting, to the height of five or six inches. The eggs are usually four in number, very thick at the great end, and tapering to a narrower point at the other than those of the common hen; they measure two inches and one-eighth in length, by one and a half in their greatest breadth; and are of a dark dingy olive, largely blotched with blackish brown, particularly at the great end. In some the ground color has a tinge of green; in others of bluish. They are excellent eating, as I have often experienced when obliged to dine on them in my hunting excursions through the salt marshes. The young are covered with a gray colored down; run off soon after they leave the shell; and are led and assisted in their search of food by the mother; while the male keeps a continual watch around for their safety.

The anxiety and affection manifested by these birds for their eggs and

* This and the five following species belong to the genus *Totanus* of Bechstein.

† *Scolopax semipalmati*, LATH. *Syn.* III., p. 152., No. 22.—Id. *Ind. Orn.* p. 722, No. 27.—GMEL. *Syst.* I., p. 659, No. 331.

‡ From some unknown cause, the height of laying of these birds is said to be full two weeks later than it was twenty years ago.

females, that had very little rufous below, and the backs were also much lighter, and less marbled with ferruginous. The eggs contained in their ovaries were some of them as large as garden peas. Their stomachs contained masses of those small snail shells that lie in millions on the salt marshes: the wrinkles at the base of the bill, and the red breast, are strong characters of this species, as also the membrane which unites the outer and middle toes together.

The Red-breasted Snipe is ten inches and a half long, and eighteen inches in extent; the bill is about two inches and a quarter in length, straight, grooved, black towards the point, and of a dirty eelskin color at the base, where it is tumid and wrinkled; lores dusky; cheeks and eyebrows pale yellowish white, mottled with specks of black; throat and breast a reddish buff color; sides white, barred with black; belly and vent white, the latter barred with dusky; crown, neck above, back, scapulars and tertials, black, edged, mottled and marbled with yellowish white, pale and bright ferruginous, much in the same manner as the common Snipe; wings plain olive, the secondaries centered and bordered with white; shaft of the first quill very white; rump, tail-coverts and tail (which consists of twelve feathers) white, thickly spotted with black; legs and feet dull yellowish green; outer toe united to the middle one by a small membrane; eye very dark. The female, which is paler on the back, and less ruddy on the breast, has been described by Mr. Pennant as a separate species.*

These birds doubtless breed not far to the northward of the United States, if we may judge from the lateness of the season when they leave us in spring; the largeness of the eggs in the ovaries of the females before they depart, and the short period of time they are absent. Of all our sea-side Snipes it is the most numerous, and the most delicious for the table.

From these circumstances and the crowded manner in which it flies and settles, it is the most eagerly sought after by our gunners, who send them to market in great numbers.

* See his Brown Snipe, *Arct. Zool.* No. 369.

SPECIES V. *SCOLOPAX SEMIPALMATA*.*

SEMIPALMATED SNIPE.

[Plate LVI. Fig. 3.]

Arct. Zool. p. 469, No. 380.†

THIS is one of the most noisy and noted birds that inhabit our salt marshes in summer. Its common name is the *Willet*, by which appellation it is universally known along the shores of New York, New Jersey, Delaware and Maryland, in all of which places it breeds in great numbers.

The Willet is peculiar to America. It arrives from the south, on the shores of the Middle States, about the twentieth of April, or beginning of May; and from that time to the last of July, its loud and shrill reiterations of *Pill-will-willet*, *Pill-will-willet*, resound, almost incessantly, along the marshes; and may be distinctly heard at the distance of more than half a mile. About the twentieth of May the Willets generally begin to lay.‡ Their nests are built on the ground, among the grass of the salt marshes, pretty well towards the land, or cultivated fields, and are composed of wet rushes and coarse grass, forming a slight hollow or cavity in a tussock. This nest is gradually increased during the period of laying and sitting, to the height of five or six inches. The eggs are usually four in number, very thick at the great end, and tapering to a narrower point at the other than those of the common hen; they measure two inches and one-eighth in length, by one and a half in their greatest breadth; and are of a dark dingy olive, largely blotched with blackish brown, particularly at the great end. In some the ground color has a tinge of green; in others of bluish. They are excellent eating, as I have often experienced when obliged to dine on them in my hunting excursions through the salt marshes. The young are covered with a gray colored down; run off soon after they leave the shell; and are led and assisted in their search of food by the mother; while the male keeps a continual watch around for their safety.

The anxiety and affection manifested by these birds for their eggs and

* This and the five following species belong to the genus *Totanus* of Bechstein.

† *Scolopax semipalmati*, LATH. *Syn.* III., p. 152., No. 22.—Id. *Ind. Orn.* p. 722, No. 27.—GMEL. *Syst.* I., p. 659, No. 331.

‡ From some unknown cause, the height of laying of these birds is said to be full two weeks later than it was twenty years ago.

young, are truly interesting. A person no sooner enter the marshes, than he is beset with the Willets, flying around and skimming over his head, vociferating with great violence their common cry of *Pill-will-willet*; and uttering at times a loud clicking note, as he approaches nearer to their nest. As they occasionally alight, and slowly shut their long white wings speckled with black, they have a mournful note, expressive of great tenderness. During the term of incubation, the female often resorts to the sea-shore, where, standing up to the belly in water, she washes and dresses her plumage, seeming to enjoy great satisfaction from these frequent immersions. She is also at other times seen to wade more in the water than most of her tribe; and when wounded in the wing, will take to the water without hesitation, and swims tolerably well.

The eggs of the Willet, in every instance which has come under my observation, are placed, during incubation, in an almost upright position, with the large end uppermost; and this appears to be the constant practice of several other species of birds that breed in these marshes. During the laying season, the Crows are seen roaming over the marshes in search of eggs, and wherever they come spread consternation and alarm among the Willets, who in united numbers attack, and pursue them with loud clamors. It is worthy of remark, that among the various birds that breed in these marshes, a mutual respect is paid to each other's eggs; and it is only from intruders from the land side, such as Crows, Jays, weasels, foxes, minxes and man himself, that these affectionate tribes have most to dread.

The Willet subsists chiefly on small shell-fish, marine worms, and other aquatic insects, in search of which it regularly resorts to the muddy shores, and flats, at low water; its general rendezvous being the marshes.

This bird has a summer, and also a winter, dress, in its colors differing so much in these seasons as scarcely to appear to be the same species. Our figure in the plate exhibits it in its spring and summer plumage, which in a good specimen is as follows:

Length fifteen inches, extent thirty inches; upper parts dark olive brown, the feathers streaked down the centre and crossed with waving lines of black; wing-coverts light olive ash; the whole upper parts sprinkled with touches of dull yellowish white; primaries black, white at the root half; secondaries white, bordered with brown; rump dark brown; tail rounded, twelve feathers, pale olive, waved with bars of black; tail-coverts white, barred with olive; bill pale lead color, becoming black towards the tip; eye very black; chin white; breast beautifully mottled with transverse spots of olive, on a cream ground; belly and vent white, the last barred with olive; legs and feet pale lead color; toes half-webbed.

Towards the fall, when these birds associate in large flocks, they be-

come of a pale dun color above, the plumage being shafted with dark brown, and the tail white, or nearly so. At this season they are extremely fat, and esteemed excellent eating. Experienced gunners always select the lightest colored ones from a flock, as being uniformly the fattest.

The female of this species is generally larger than the male. In the months of October and November they gradually disappear.

SPECIES VI. *SCOLOPAX VOCIFERUS*.

TELL-TALE GODWIT, OR SNIPE.

[Plate LVIII. Fig. 5.]

Stone Snipe, *Arct. Zool.* p. 468, No. 376.—*Turr. Syst.* p. 396.*

THIS species, and the preceding, are both well known to our Duck-gunners, along the sea-coast and marshes, by whom they are detested, and stigmatized with the names of the greater and lesser *Tell-tale*, for their faithful vigilance in alarming the Ducks with their loud and shrill whistle, on the first glimpse of the gunner's approach. Of the two the present species is by far the most watchful; and its whistle, which consists of four notes rapidly repeated, is so loud, shrill and alarming, as instantly to arouse every Duck within its hearing, and thus disappoints the eager expectations of the shooter. Yet the cunning and experience of the latter, is frequently more than a match for all of them, and before the poor *Tell-tale* is aware, his warning voice is hushed for ever, and his dead body mingled with those of his associates.

This bird arrives on our coast early in April, breeds in the marshes, and continues until November, about the middle of which month it generally moves off to the south. The nest, I have been informed, is built in a tuft of thick grass, generally on the borders of a bog or morass. The female, it is said, lays four eggs, of a dingy white, irregularly marked with black.

These birds appear to be unknown in Europe. They are simply mentioned by Mr. Pennant, as having been observed in autumn, feeding on the sands on the lower part of Chatteaux Bay, continually nodding their heads; and were called there Stone Curlews.†

* *Scolopax melanoleuca*, GMEL. *Syst.* I., p. 559, No. 32.—LATH. *Ind. Orn.* p. 723, No. 28.—*Spotted Snipe*, LATH. *Syn.* III., p. 149, var. A. *Totanus melanoleucos*, ORD, reprint, VII., p. 61.

† *Arct. Zool.* p. 468.

The *Tell-tale* seldom flies in large flocks, at least during summer. It delights in watery bogs, and the muddy margins of creeks and inlets; is either seen searching about for food, or standing in a watchful posture, alternately raising and lowering the head, and on the least appearance of danger utters its shrill whistle, and mounts on wing, generally accompanied by all the feathered tribes that are near. It occasionally penetrates inland, along the muddy shores of our large rivers, seldom higher than tide water, and then singly and solitary. They sometimes rise to a great height in the air, and can be distinctly heard when beyond the reach of the eye. In the fall, when they are fat, their flesh is highly esteemed, and many of them are brought to our markets. The colors and markings of this bird are so like those of the preceding, that unless in point of size, and the particular curvature of the bill, the description of one might serve for both.

The Tell-tale is fourteen inches and a half long, and twenty-five inches in extent; the bill is two inches and a quarter long, of a dark horn color, and slightly bent upwards; the space round the eye, chin and throat, pure white; lower part of the neck pale ashy white, speckled with black; general color of the upper parts an ashy brown, thickly spotted with black and dull white, each feather being bordered and spotted on the edge with black; wing quills black; some of the primaries, and all of the secondaries, with their coverts, spotted round the margins with black and white; head and neck above streaked with black and white; belly and vent pure white; rump white, dotted with black; tail also white, barred with brown; the wings, when closed, reach beyond the tail; thighs naked nearly two inches above the knees; legs two inches and three quarters long; feet four-toed, the outer joined by a membrane to the middle, the whole of a rich orange yellow. The female differs little in plumage from the male; sometimes the vent is slightly dotted with black, and the upper parts more brown.

Nature seems to have intended this bird as a kind of spy, or sentinel, for the safety of the rest; and so well acquainted are they with the watchful vigilance of this species, that, while it continues silent among them, the Ducks feed in the bogs and marshes without the least suspicion. The great object of the gunner is to escape the penetrating glance of this guardian, which is sometimes extremely difficult to effect. On the first whistle of the Tell-tale, if beyond gunshot, the gunner abandons his design, but not without first bestowing a few left-handed blessings on the author of his disappointment.

SPECIES VII. *SCOLOPAX FLAVIPES*.

YELLOW-SHANKS SNIPE.

[Plate LVIII. Fig. 4.]

Arct. Zool. p. 463, No. 878.—*TURT. Syst.* 395.*

OF this species I have but little to say. It inhabits our seacoasts, and salt marshes, during summer; frequents the flats at low water, and seems particularly fond of walking among the mud, where it doubtless finds its favorite food in abundance. Having never met with its nest, nor with any person acquainted with its particular place or manner of breeding, I must reserve these matters for further observation. It is a plentiful species, and great numbers are brought to market in Boston, New York, and Philadelphia, particularly in autumn. Though these birds do not often penetrate far inland, yet on the fifth of September I shot several dozens of them in the meadows of Schuylkill, below Philadelphia. There had been a violent north-east storm a day or two previous, and a large flock of these, accompanied by several species of *Tringa*, and a vast number of the Short-tailed Tern, appeared at once among the meadows. As a bird for the table the Yellow-shanks, when fat, is in considerable repute. Its chief residence is in the vicinity of the sea, where there are extensive mud-flats. It has a sharp whistle, of three or four notes, when about to take wing, and when flying. These birds may be shot down with great facility, if the sportsman, after the first discharge, will only lie close, and permit the wounded birds to flutter about without picking them up; the flock will generally make a circuit and alight repeatedly, until the greater part of them may be shot down.†

Length of the Yellow-shanks ten inches, extent twenty; bill slender, straight, an inch and a half in length, and black; line over the eye, chin, belly and vent, white; breast and throat gray; general color of the plumage above dusky brown olive, inclining to ash, thickly marked with small triangular spots of dull white; tail coverts white; tail also white, handsomely barred with dark olive; wings plain dusky, the

* GMEL. *Syst.* I., p. 659, No. 31.—LATH. *Syn.* III., p. 152, No. 24.—*Ind. Orn.* p. 723, No. 29.

† These birds are very common, in the early part of May, on the muddy flats of our rivers, particularly in the vicinity of Philadelphia, and are at that period in good condition.

secondaries edged, and all the coverts edged and tipped, with white; shafts black; eye also black; legs and naked thighs long and yellow; outer toe united to the middle one by a slight membrane; claws a horn color. The female can scarcely be distinguished from the male.

NOTE.—Mr. Ord in his reprint gives the following more minute description, of a female, shot on the twenty-second of April: "length upwards of ten inches, breadth twenty inches; irides brown; bill slender, straight, an inch and a half in length, and black, mandibles of equal length, the upper bent downwards at the tip; throat, lower parts, thighs, and under tail coverts, white—the last are generally marked on their exterior vanes with brown; those next to the tail barred with the same; lower part of the neck, with the breast, gray, the feathers streaked down their centres with dusky; head and back part of the neck black, the plumage edged with gray, in some specimens edged with brown ash, upper parts black, with oblong spots of white, intermixed with pale brown feathers; rump brown, edged with white; upper tail coverts white, barred with brown; the tail is composed of twelve feathers, white, barred with ashy brown, the upper feathers, in some, gray brown, marked on their vanes, though not across, with brown and white; wings, when closed, extend somewhat beyond the tail; primaries and secondaries dusky; shaft of first primary whitish above, the rest of the shafts brown above, in some black, all white below; lesser wing coverts dusky, slightly edged with white, and in some spotted with brown on the exterior vanes; secondaries slightly edged with white; legs bare above the knees upwards of an inch; length of tarsus two inches; outer toe connected as far as the first joint to the middle one, the membrane of the inner toe quite small; legs and feet yellow ochre; the claw of the middle toe has the appearance of having a supplemental nail at its base. A young male shot at the same time, had its upper parts mixed with cinereous."

GENUS LXXIII. TRINGA. SANDPIPER.

SPECIES I. *T. BARTRAMIA*.*

BARTRAM'S SANDPIPER.

[Plate LIX. Fig. 2.]

THIS bird being, as far as I can discover, a new species, undescribed by any former author, I have honored it with the name of my very worthy friend, near whose Botanic Gardens, on the banks of the river Schuylkill, I first found it. On the same meadows I have since shot several other individuals of the species, and have thereby had an opportunity of taking an accurate drawing, as well as description of it.

Unlike most of their tribe, these birds appeared to prefer running about among the grass, feeding on beetles, and other winged insects. There were three or four in company; they seemed extremely watchful, silent, and shy, so that it was always with extreme difficulty I could approach them.

These birds are occasionally seen there during the months of August and September, but whether they breed near, I have not been able to discover. Having never met with them on the seashore, I am persuaded that their principal residence is in the interior, in meadows, and such like places. They run with great rapidity, sometimes spreading their tail, and dropping their wings, as birds do who wish to decoy you from their nest; when they alight, they remain fixed, stand very erect, and have two or three sharp whistling notes as they mount to fly. They are remarkably plump birds, weighing upwards of three-quarters of a pound; their flesh is superior, in point of delicacy, tenderness and flavor, to any other of the tribe with which I am acquainted.

This species is twelve inches long, and twenty-one in extent; the bill is an inch and a half long, slightly bent downwards, and wrinkled at the base, the upper mandible black on its ridge, the lower, as well as the edge of the upper, of a fine yellow; front, stripe over the eye, neck and breast, pale ferruginous, marked with small streaks of black, which, on the lower part of the breast, assume the form of arrow heads; crown black, the plumage slightly skirted with whitish; chin, orbit of the eye, whole belly and vent, pure white; hind-head, and neck above, ferruginous, minutely streaked with black; back and scapulars black, the

* *Totanus Bartramius*, TEMM. *Man. d' Orn.* p. 650.

former slightly skirted with ferruginous, the latter with white; tertials black, bordered with white; primaries plain black; shaft of the exterior quill snowy, its inner vane elegantly pectinated with white; secondaries pale brown, spotted on their outer vanes with black, and tipped with white; greater coverts dusky, edged with pale ferruginous, and spotted with black; lesser coverts pale ferruginous, each feather broadly bordered with white, within which is a concentric semicircle of black; rump and tail-coverts deep brown black, slightly bordered with white; tail tapering, of a pale brown orange color, beautifully spotted with black, the middle feather centered with dusky; legs yellow, tinged with green; the outer toe joined to the middle by a membrane; lining of the wings elegantly barred with black and white; iris of the eye dark, or blue black, eye very large. The male and female are nearly alike.

NOTE.—Whether the bird described by Temminck (*Man. d'Orn.* p. 650), is identical with this species, will admit of some doubt; although this excellent ornithologist says, that “*les individus d'Europe et ceux d'Amerique ne different point.*” Bartram's Sandpiper is known to our shooters by the name of *Grass Plover*. It breeds in low grounds, in the state of New Jersey. When watching its nest, it is fond of sitting upon fences; and on alighting, it throws up its wings in the manner of the *Willet*. In the early part of August it begins to migrate; it then flies high, and may be easily recognised by its whistling notes, which resemble those of the *Tell-tale*. In the middle of June I observed this species in the vicinity of Burlington, New Jersey; but I could not discover its nest.—*G. Ord.*

SPECIES II. *TRINGA SOLITARIA*.*

SOLITARY SANDPIPER.

[Plate LVIII. Fig. 3.]

THIS new species inhabits the watery solitudes of our highest mountains during the summer, from Kentucky to New York; but is nowhere numerous, seldom more than one or two being seen together. It takes short low flights; runs nimbly about among the mossy margins of the mountain springs, brooks and pools, occasionally stopping, looking at you, and perpetually nodding the head. It is so unsuspicious, or so little acquainted with man, as to permit one to approach within a few yards of it, without appearing to take any notice, or to be the least alarmed. At the approach of cold weather, it descends to the muddy shores of our large rivers, where it is occasionally met with, singly, on its way to the south. I have made many long and close searches for the nest of this bird, without success. They regularly breed on Pocono Mountain, between Easton and Wilkesbarre, in Pennsylvania, arriving there early in May, and departing in September. It is usually silent, unless when suddenly flushed, when it utters a sharp whistle.

This species has considerable resemblance, both in manners and markings, to the Green Sandpiper of Europe (*Tringa Ochropus*); but differs from that bird in being nearly one-third less, and in wanting the white rump and tail-coverts of that species; it is also destitute of its silky olive green plumage. How far north its migrations extend I am unable to say.

The Solitary Sandpiper is eight inches and a half long, and fifteen inches in extent; the bill is one inch and a quarter in length and dusky; nostrils pervious, bill fluted above and below; line over the eye, chin, belly and vent, pure white; breast white, spotted with pale olive brown; crown and neck above dark olive, streaked with white; back, scapulars and rump, dark brown olive, each feather marked along the edges with small round spots of white; wings plain, and of a darker tint; under tail-covert spotted with black; tail slightly rounded, the five exterior feathers on each side white, broadly barred with black; the two middle ones, as well as their coverts, plain olive; legs long, slender, and of a dusky green. Male and female alike in color.

* *Totanus glareolus*, ORD's reprint, VII., p. 57.—*Totanus chloropygius*, VIEILL.—PRINCE MUSIGNANO, *Gen. N. A. Birds*.

SPECIES III. *TRINGA MACULARIA*.

SPOTTED SANDPIPER.

[Plate LIX. Fig. 1.]

Arct. Zool. p. 473, No. 385.—*La Grive d'eau*, BUFF. VIII., 140.—EDW. 277.*

THIS very common species arrives in Pennsylvania about the twentieth of April, making its first appearance along the shores of our large rivers, and, as the season advances, tracing the courses of our creeks and streams towards the interior. Along the rivers Schuylkill and Delaware, and their tributary waters, they are in great abundance during the summer. This species is as remarkable for perpetually wagging the tail, as some others are for nodding the head; for whether running on the ground, or on the fences, along the rails, or in the water, this motion seems continual; even the young, as soon as they are freed from the shell, run about constantly wagging the tail. About the middle of May they resort to the adjoining corn fields to breed, where I have frequently found and examined their nests. One of these, now before me, and which was built at the root of a hill of Indian corn, on high ground, is composed wholly of short pieces of dry straw. The eggs are four, of a pale clay or cream color, marked with large irregular spots of black, and more thinly with others of a paler tint. They are large in proportion to the size of the bird, measuring an inch and a quarter in length, very thick at the great end, and tapering suddenly to the other. The young run about with wonderful speed as soon as they leave the shell, and are then covered with down of a full drab color, marked with a single streak of black down the middle of the back, and with another behind each ear. They have a weak, plaintive note. On the approach of any person, the parents exhibit symptoms of great distress, counterfeiting lameness, and fluttering along the ground with seeming difficulty. On the appearance of a dog, this agitation is greatly increased; and it is very interesting to observe with what dexterity the female will lead him from her young, by throwing herself repeatedly before him, fluttering off, and keeping just without his reach, on a contrary direction from her helpless brood. My venerable friend, Mr. William Bartram,

* *Tringa macularia*, GMEL. *Syst.* 1., p. 672, No. 7.—LATH. *Ind. Orn.* p. 734, No. 29.—*Totanus macularius*, TEMM. *Man. d'Orn.* p. 656.

informs me, that he saw one of these birds defend her young, for a considerable time, from the repeated attacks of a ground squirrel. The scene of action was on the river shore. The parent had thrown herself, with her two young behind her, between them and the land; and at every attempt of the squirrel to seize them by a circuitous sweep, raised both her wings in an almost perpendicular position, assuming the most formidable appearance she was capable of, and rushed forwards on the squirrel, who, intimidated by her boldness and manner, instantly retreated; but presently returning, was met, as before, in front and on flank, by the daring and affectionate bird, who with her wings and whole plumage bristling up, seemed swelled to twice her usual size. The young crowded together behind her, apparently sensible of their perilous situation, moving backwards and forwards as she advanced or retreated. This interesting scene lasted for at least ten minutes; the strength of the poor parent began evidently to flag, and the attacks of the squirrel became more daring and frequent, when my good friend, like one of those celestial agents who, in Homer's time, so often decided the palm of victory, stepped forward from his retreat, drove the assailant back to his hole, and rescued the innocent from destruction.

The flight of this bird is usually low, skimming along the surface of the water, its long wings making a considerable angle downwards from the body, while it utters a rapid cry of *weet weet weet* as it flutters along, seldom steering in a direct line up or down the river, but making a long circuitous sweep, stretching a great way out, and gradually bending in again to the shore.

These birds are found occasionally along the sea marshes, as well as in the interior; and also breed in the corn fields there, frequenting the shore in search of food; but rarely associating with the other *Tringæ*. About the middle of October they leave us on their way to the south, and do not, to my knowledge, winter in any of the Atlantic States.

Mr. Pennant is of opinion that this same species is found in Britain; but neither his description, nor that of Mr. Bewick, will apply correctly to this. The following particulars, with the figure, will enable Europeans to determine this matter to their satisfaction.

Length of the Spotted Sandpiper seven inches and a half, extent thirteen inches; bill an inch long, straight, the tip, and upper mandible, dusky, lower orange; stripe over the eye, and lower eyelid, pure white; whole upper parts a glossy olive, with greenish reflections, each feather marked with waving spots of dark brown; wing quills deep dusky; bastard wing bordered and tipped with white; a spot of white on the middle of the inner vane of each quill feather, except the first; secondaries tipped with white; tail rounded, the six middle feathers greenish olive, the other three, on each side, white, barred with black; whole lower parts white, beautifully marked with roundish spots of

black, small and thick on the throat and breast, larger and thinner as they descend to the tail; legs a yellow clay color; claws black.

The female is as thickly spotted below as the male; but the young birds, of both sexes, are pure white below, without any spots; they also want the orange on the bill. These circumstances I have verified on numerous individuals.

SPECIES IV. *TRINGA SEMIPALMATA*.

SEMIPALMATED SANDPIPER.

[Plate LXIII. Fig. 4.]

THIS is one of the smallest of its tribe; and seems to have been entirely overlooked, or confounded with another which it much resembles (*Tringa pusilla*), and with whom it is often found associated.

Its half-webbed feet, however, are sufficient marks of distinction between the two. It arrives and departs with the preceding species; flies in flocks with the Stints, Purres, and a few others; and is sometimes seen at a considerable distance from the sea, on the sandy shores of our fresh water lakes. On the twenty-third of September, I met with a small flock of these birds in Burlington Bay, on Lake Champlain. They are numerous along the seashores of New Jersey; but retire to the south on the approach of cold weather.

This species is six inches long, and twelve in extent; the bill is black, an inch long, and very slightly bent; crown and body above dusky brown, the plumage edged with ferruginous, and tipped with white; tail and wings nearly of a length; sides of the rump white; rump and tail-coverts black; wing quills dusky black, shafted and banded with white, much in the manner of the Least Snipe; over the eye a line of white; lesser coverts tipped with white; legs and feet blackish ash, the latter half-webbed. Males and females alike in color.

These birds varied greatly in their size, some being scarcely five inches and a half in length, and the bill not more than three-quarters; others measured nearly seven inches in the whole length, and the bill upwards of an inch. In their general appearance they greatly resemble the Stints or Least Snipe; but unless we allow that the same species may sometimes have the toes half-webbed, and sometimes divided to the origin, and this not in one or two solitary instances, but in whole flocks, which would be extraordinary indeed, we cannot avoid classing this as a new and distinct species.

SPECIES V. *TRINGA PUSILLA*.

LITTLE SANDPIPER.

[Plate XXXVII. Fig. 4.]

LATH. *Syn.* v., p. 184, 32.—*Arct. Zool.* II., No. 397.—*Cinclus dominicensis minor*,
BRISS. v., p. 222, 13, t. 25, f. 2.—TURT. *Syst.* 410.

THIS is the least of its tribe in this part of the world, and in its mode of flight has much more resemblance to the Snipe than to the Sandpiper. It is migratory, departing early in October for the south. It resides chiefly among the sea marshes, and feeds among the mud at low water; springs with a zigzag irregular flight, and a feeble twit. It is not altogether confined to the neighborhood of the sea, for I have found several of them on the shores of the Schuylkill, in the month of August. In October, immediately before they go away, they are usually very fat. Their nests or particular breeding places I have not been able to discover.

This minute species is found in Europe, and also at Nootka Sound on the western coast of America. Length five inches and a half; extent eleven inches; bill and legs brownish black; upper part of the breast gray brown, mixed with white; back and upper parts black; the whole plumage above broadly edged with bright bay and yellow ochre; primaries black; greater coverts the same, tipped with white; eye small, dark hazel; tail rounded, the four exterior feathers on each side dull white, the rest dark brown; tertials as long as the primaries; head above dark brown with paler edges; over the eye a streak of whitish; belly and vent white; the bill is thick at the base, and very slender towards the point; the hind toe small. In some specimens the legs were of a dirty yellowish color. Sides of the rump white; just below the greater coverts the primaries are crossed with white.

Very little difference could be perceived between the plumage of the males and females. The bay on the edges of the back, and scapulars, was rather brighter in the male, and the brown deeper.

SPECIES VI. *TRINGA ALPINA*.

RED-BACKED SANDPIPER.

[Plate LVI. Fig. 2.]

Dunlin, *Arct. Zool.* p. 476, No. 391.—BEWICK, II., p. 113.—*La Brunnette*, BUFF. VII., 493.*

THIS bird inhabits both the old and new continents, being known in England by the name of the Dunlin; and in the United States, along the shores of New Jersey, by that of the Red-back. Its residence here is but transient, chiefly in April and May, while passing to the arctic regions to breed; and in September and October, when on its return southward to winter quarters. During their stay they seldom collect in separate flocks by themselves; but mix with various other species of strand-birds, among whom they are rendered conspicuous by the red color of the upper part of their plumage. They frequent the muddy flats, and shores of the salt marshes, at low water, feeding on small worms and other insects which generally abound in such places. In the month of May they are extremely fat.

This bird is said to inhabit Greenland, Iceland, Scandinavia, the Alps of Siberia; and in its migrations the coasts of the Caspian Sea.† It has not, till now, been recognised by naturalists as inhabiting this part of North America. Wherever its breeding place may be, it probably begins to lay at a late period of the season, as in numbers of females which I examined on the first of June, the eggs were no larger than grains of mustard seed.

Length of the Red-back eight inches and a half, extent fifteen inches; bill black, longer than the head (which would seem to rank it with the Snipes), slightly bent, grooved on the upper mandible, and wrinkled at the base; crown, back and scapulars, bright reddish rust, spotted with black; wing-coverts pale olive; quills darker; the first tipped, the latter crossed, with white; front, cheeks, hind-head, and sides of the neck, quite round, also the breast, grayish white, marked with small specks of black; belly white, marked with a broad crescent of black; tail pale olive, the two middle feathers centered with black; legs and feet

* *Tringa alpina*, LATH. *Ind. Orn.* 736, No. 37.—*Le Cincle*, BUFF. *Pl. Enl.* 852.

† Pennant.

ashy black; toes divided to their origin, and bordered with a slightly scalloped membrane; irides very dark.

The males and females are nearly alike in one respect, both differing greatly in color even at the same season, probably owing to difference of age; some being of a much brighter red than others, and the plumage dotted with white. In the month of September, many are found destitute of the black crescent on the belly; these have been conjectured to be young birds.

NOTE.—After an attentive examination of many of these birds on the coast of Cape May, in the month of April, I am perfectly convinced, that the hitherto supposed two species, the present and the Purre, constitute but one species, the latter being in immature plumage. In some instances, I found the Purres were beginning to get the broad band of black on the belly, and the black thickening with ruddy feathers, appearing almost perfect Black-bellied Sandpipers.—*Wilson's MSS.*

TRINGA CINCLUS.*

THE PURRE.

[Plate LVII. Fig. 3.]

LINN. *Syst.* 251.—*Arct. Zool.* p. 475, No. 390.—BEWICK, II., p. 115.—*L'Alouette de mer*, BUFF. VII., 548.

THIS is one of the most numerous of our *Strand-birds*, as they are usually called, that frequent the sandy beach, on the frontiers of the ocean. In its habit it differs so little from the preceding, that, except in being still more active and expert in running, and searching among the sand, on the reflux of the waves, as it nimbly darts about for food, what has been said of the former will apply equally to both, they being pretty constant associates on these occasions.

The Purre continues longer with us both in spring and autumn than either of the two preceding; many of them remain during the very severest of the winter, though the greater part retire to the more genial regions of the south; where I have seen them at such seasons, particularly on the seacoasts of both Carolinas, during the month of February, in great numbers.

These birds, in conjunction with several others, sometimes collect together in such flocks, as to seem, at a distance, a large cloud of thick

* The preceding species in immature plumage.

smoke, varying in form and appearance every instant, while it performs its evolutions in air. As this cloud descends, and courses along the shores of the ocean, with great rapidity, in a kind of waving serpentine flight, alternately throwing its dark and white plumage to the eye; it forms a very grand and interesting appearance. At such times the gunners make prodigious slaughter among them; while, as the showers of their companions fall, the whole body often alight, or descend to the surface with them, till the sportsman is completely satiated with destruction. On some of those occasions, while crowds of these victims are fluttering along the sand, the small Pigeon Hawk, constrained by necessity, ventures to make a sweep among the dead, in presence of the proprietor, but as suddenly pays for his temerity with his life! Such a tyrant is man, when vested with power, and unrestrained by the dread of responsibility!

The Purre is eight inches in length, and fifteen inches in extent; the bill is black, straight, or slightly bent downwards, about an inch and a half long, very thick at the base, and tapering to a slender blunt point at the extremity; eye very small, iris dark hazel; cheeks gray; line over the eye, belly and vent, white; back and scapulars of an ashy brown, marked here and there with spots of black, bordered with bright ferruginous; sides of the rump white; tail-coverts olive, centered with black; chin white; neck below gray; breast and sides thinly marked with pale spots of dusky, in some pure white; wings black, edged and tipped with white; two middle tail feathers dusky, the rest brown ash, edged with white; legs and feet black; toes bordered with a very narrow scalloped membrane. The usual broad band of white crossing the wing, forms a distinguishing characteristic of almost the whole genus.

On examining more than a hundred of these birds, they varied considerably in the black and ferruginous spots on the back and scapulars; some were altogether plain, while others were thickly marked, particularly on the scapulars, with a red rust color, centered with black. The females were uniformly more plain than the males; but many of the latter, probably young birds, were destitute of the ferruginous spots. On the twenty-fourth of May, the eggs in the females were about the size of partridge shot. In what particular regions of the north these birds breed, is altogether unknown.

SPECIES VII. *TRINGA RUFA*.

RED-BREASTED SANDPIPER.

[Plate LVII. Fig. 5.]

OF this prettily marked species I can find no description. The *Tringa Islandica*, or Aberdeen Sandpiper of Pennant and others, is the only species that has any resemblance to it; the descriptions of that bird, however, will not apply to the present.*

The common name of this species, on our seacoast, is the *Gray-back*, and among the gunners it is a particular favorite, being generally a plump, tender, and excellent bird for the table; and, consequently, brings a good price in market.

The Gray-backs do not breed on the shores of the Middle States. Their first appearance is early in May. They remain a few weeks, and again disappear until October. They usually keep in small flocks, alight in a close body together on the sand flats, where they search for the small bivalve shells already described. On the approach of the sportsman, they frequently stand fixed and silent for some time; do not appear to be easily alarmed, neither do they run about in the water as much as some others, or with the same rapidity, but appear more tranquil and deliberate. In the month of November they retire to the south.

This species is ten inches long, and twenty in extent; the bill is black, and about an inch and a half long; the chin, eyebrows, and whole breast, a pale brownish orange color; crown, hindhead, from the upper mandible backwards, and neck, dull white, streaked with black; back a

* This appears to be an error. This species is probably no other than the *Tringa Islandica* in summer dress; and as many nominal species have been made of it, we quote the following synonymes from Prince Musignano's observations, Journal Acad. Nat. Sc. Phila. vol. v., p. 93.—"*Tringa alpina*, LINN. GMEL. LATH.—*TRINGA cinclus*, LINN. BRISS. GMEL. LATH. winter plumage.—*TRINGA ruficollis*, GMEL. LATH. spring moulting.—*SCOLOPAX pusilla*? GMEL. (moulting). Is it not rather *T. schinzii*, Brehm?—*TRINGA cinclus torquatus*, BRISS. moulting.—*SCOLOPAX gallinago anglicana*? BRISS. moulting. Is it not rather *T. schinzii*?—*TRINGA variabilis*, MEYER, TEMM. SABINE.—*Le Cincle*, BUFF. Pl. Enl. 852, moulting.—*L'Alouette de mer*? BUFF. Pl. Enl. 851, moulting. With Vieillot we do not think this plate intended for *TRINGA subarquata*, TEMM., as it is thought by Meyer and Temminck."

pale slaty olive, the feathers tipped with white, barred and spotted with black and pale ferruginous; tail-coverts white, elegantly barred with black; wings plain dusky, black towards the extremity; the greater coverts tipped with white; shafts of the primaries white; tail pale ashy olive, finely edged with white, the two middle feathers somewhat the longest; belly and vent white, the latter marked with small arrow-heads of black; legs and feet black; toes bordered with a narrow membrane; eye small and black.

In some specimens, both of males and females, the red on the breast was much paler, in others it descended as far as the thighs. Both sexes seemed nearly alike.

*TRINGA CINEREA.**

ASH-COLORED SANDPIPER.

[Plate LVII. Fig. 2.]

Arct. Zool. p. 474, No. 386.—BEWICK, II., p. 102.

THE regularly disposed concentric semicircles of white and dark brown that mark the upper parts of the plumage of this species, distinguish it from all others, and give it a very neat appearance. In activity it is superior to the preceding; and traces the flowing and recession of the waves along the sandy beach, with great nimbleness, wading and searching among the loosened particles for its favorite food, which is a small thin oval bivalve shell-fish, of a white or pearl color, and not larger than the seed of an apple. These usually lie at a short depth below the surface; but in some places are seen at low water in heaps, like masses of wet grain, in quantities of more than a bushel together. During the latter part of summer and autumn, these minute shell-fish constitute the food of almost all those busy flocks, that run with such activity along the sands, among the flowing and retreating waves. They are universally swallowed whole; but the action of the bird's stomach, assisted by the shells themselves, soon reduces them to a pulp. If we may judge from their effects, they must be extremely nutritious, for almost all those tribes that feed on them are at this season mere lumps of fat. Digging for these in the hard sand would be a work of considerable labor, whereas when the particles are loosened by the flowing of the sea, the birds collect them with great ease and dexterity. It is amusing to observe with what adroitness they follow

* This is the preceding species in winter dress, according to Prince Musignano.

and elude the tumbling surf, while at the same time they seem wholly intent on collecting their food.

The Ash-colored Sandpiper, the subject of our present account, inhabits both Europe and America. It has been seen in great numbers on the Seal Islands near Chatteaux Bay; is said to continue the whole summer in Hudson's Bay, and breeds there. Mr. Pennant suspects that it also breeds in Denmark; and says that they appear in vast flocks on the Flintshire shores, during the winter season.* With us they are also migratory, being only seen in spring and autumn. They are plump birds; and by those accustomed to the sedgy taste of this tribe, are esteemed excellent eating.

The length of this species is ten inches, extent twenty; bill black, straight, fluted to nearly its tip, and about an inch and a half long; upper parts brownish ash, each feather marked near the tip with a narrow semicircle of dark brown, bounded by another of white; tail-coverts white, marbled with olive; wing quills dusky, shafts white; greater coverts black, tipped with white; some of the primaries edged also with white; tail plain pale ash, finely edged and tipped with white; crown and hind-head streaked with black, ash and white; stripe over the eye, cheeks and chin, white, the former marked with pale streaks of dusky, the latter pure; breast white, thinly speckled with blackish; belly and vent pure white; legs a dirty yellowish clay color; toes bordered with a narrow thick warty membrane; hind-toe directed inwards, as in the Turn-stone; claws and eye black.

These birds vary a little in color, some being considerably darker above, others entirely white below; but, in all, the concentric semicircles on the back, scapulars, and wing-coverts, are conspicuous.

I think it probable that these birds become much lighter colored during the summer, from the circumstance of having shot one late in the month of June, at Cape May, which was of a pale drab or dun color. It was very thin and emaciated; and on examination appeared to have been formerly wounded, which no doubt occasioned its remaining behind its companions.

Early in December I examined the same coast every day for nearly two weeks, without meeting with more than one solitary individual of this species; although in October they were abundant. How far to the southward they extend their migrations, we have no facts that will enable us to ascertain; though it is probable that the shores of the West India Islands afford them shelter and resources during our winter.

* Arct. Zool. p. 474.

SPECIES VIII. *TRINGA INTERPRES*.*

TURN-STONE.

[Plate LVII. Fig. 1.]

Hebridal Sandpiper, *Arct. Zool.* p. 472, No. 382.—*Le Tourneypierre*, *BUFF.* VII., 130.
Pl. Enl. 130.—BEWICK, II., p. 119, 121.—CATESBY, I., 72.

THIS beautifully variegated species is common to both Europe and America; consequently extends its migrations far to the north. It arrives from the south, on the shores of New Jersey, in April; leaves them early in June; is seen on its return to the south in October; and continues to be occasionally seen until the commencement of the cold weather, when it disappears for the season. It is rather a scarce species in this part of the world,† and of a solitary disposition; seldom mingling among the large flocks of other Sandpipers; but either coursing the sands alone, or in company with two or three of its own species. On the coast of Cape May and Egg Harbor, this bird is well known by the name of the *Horse-foot Snipe*, from its living, during the months of May and June, almost wholly on the eggs or spawn of the great King Crab, called here, by the common people, the *Horse-foot*. This animal is the *Monoculus polyphemus* of entomologists. Its usual size is from twelve to fifteen inches in breadth, by two feet in length; though sometimes it is found much larger. The head, or forepart, is semicircular, and convex above, covered with a thin elastic shelly case. The lower side is concave, where it is furnished with feet and claws resembling those of a crab. The posterior extremity consists of a long, hard, pointed, dagger-like tail, by means of which, when overset by the waves, the animal turns itself on its belly again. The male may be distinguished from the female by his two large claws having only a single hook each, instead of the forceps of the female. In the Bay of Delaware, below Egg Island, and in what is usually called Maurice River Cove, these creatures seem to have formed one of their principal settlements. The bottom of this cove is generally a soft mud, extremely well suited to their accommodation.

* This bird belongs to the genus *Strepsilas* of Illiger: it is the only species of the genus known; and is found in almost every quarter of the world.

† This species is now found in great abundance on the coast of New Jersey; and becomes excessively fat, in the month of May.

Here they are resident, burying themselves in the mud during the winter, but early in the month of May they approach the shore in multitudes, to obey the great law of nature, in depositing their eggs within the influence of the sun, and are then very troublesome to the fishermen, who can scarcely draw a seine for them, they are so numerous. Being of slow motion, and easily overset by the surf, their dead bodies cover the shore in heaps, and in such numbers, that for ten miles one might walk on them without touching the ground.

The hogs from the neighboring country are regularly driven down, every spring, to feed on them, which they do with great avidity; though by this kind of food their flesh acquires a strong disagreeable fishy taste. Even the small turtles, or terrapins, so eagerly sought after by our epicures, contract so rank a taste by feeding on the spawn of the king crab, as to be at such times altogether unpalatable. This spawn may sometimes be seen lying in hollows and eddies in bushels; while the Snipes and Sandpipers, particularly the Turn-stone, are hovering about, feasting on the delicious fare. The dead bodies of the animals themselves are hauled up in wagons for manure, and when placed at the hills of corn, in planting time, are said to enrich the soil, and add greatly to the increase of the crop.

The Turn-stone derives its name from another singularity it possesses, of turning over, with its bill, small stones and pebbles in search of various marine worms and insects. At this sort of work it is exceedingly dexterous; and even when taken and domesticated, is said to retain the same habit.* Its bill seems particularly well constructed for this purpose, differing from all the rest of its tribe, and very much resembling, in shape, that of the common Nuthatch. We learn from Mr. Pennant, that these birds inhabit Hudson's Bay, Greenland, and the arctic flats of Siberia, where they breed, wandering southerly in autumn. It is said to build on the ground, and to lay four eggs, of an olive color spotted with black; and to inhabit the isles of the Baltic during summer.

The Turn-stone flies with a loud twittering note, and runs with its wings lowered; but not with the rapidity of others of its tribe. It examines more completely the same spot of ground, and, like some of the Woodpeckers, will remain searching in the same place, tossing the stones and pebbles from side to side for a considerable time.

These birds vary greatly in color, scarcely two individuals are to be found alike in markings. These varieties are most numerous in autumn, when the young birds are about, and are less frequently met with in spring. The most perfect specimens I have examined are as follows:

Length eight inches and a half, extent seventeen inches; bill black-

* Catesby.

ish horn; frontlet, space passing through the eyes, and thence dropping down, and joining the under mandible, black, enclosing a spot of white; crown white, streaked with black; breast black, whence it turns up half across the neck; behind the eye a spot of black; upper part of the neck white, running down and skirting the black breast, as far as the shoulder; upper part of the back black, divided by a strip of bright ferruginous; scapulars black, glossed with greenish, and interspersed with rusty red; whole back below this pure white, but hid by the scapulars; rump black; tail-coverts white; tail rounded, white at the base half, thence black to the extremity; belly and vent white; wings dark dusky, crossed by two bands of white; lower half of the lesser coverts ferruginous; legs and feet a bright vermilion, or red lead; hind toe standing inwards, and all of them edged with a thick warty membrane. The male and female are alike variable; and when in perfect plumage nearly resemble each other.

Bewick, in his History of British Birds, has figured and described what he considers to be two species of Turn-stone; one of which, he says, is chiefly confined to the southern, and the other to the northern parts of Great Britain. The difference, however, between these two appears to be no greater than commonly occurs among individuals of the same flock, and evidently of the same species, in this country. As several years probably elapse before these birds arrive at their complete state of plumage, many varieties must necessarily appear, according to the different ages of the individuals.

GENUS LXXIV. CHARADRIUS. PLOVER.

SPECIES I. *C. HIATICULA.*

RINGED PLOVER.*

[Plate XXXVII. Fig. 3.†]

LATH. *Syn.* v., p. 201, 8.—*Arct. Zool.* II., No. 401.—*Petit Pluvier, à collier*, BUFF. VIII., p. 90-6.—*Pl. Enl.* 921.—*Pluvialis Torquata minor*, BRISS. v., p. 63, 8, t. 5, f. 2.—TURT. *Syst.* p. 411, 2.

It was not altogether consistent with my original plan to introduce any of the Grallæ or Waders, until I had advanced nearer to a close with the Land Birds; but as the scenery here seemed somewhat appropriate, I have taken the liberty of placing in it two birds, reduced to one-third of their natural size, both being *varieties* of their respective species, each of which will appear in their proper places, in some future volume of this work, in full size and in their complete plumage.

The Ring Plover is very abundant on the low sandy shores of our whole seacoast, during summer. They run, or rather seem to glide, rapidly along the surface of the flat sands; frequently spreading out their wings and tail like a fan, and fluttering along, to draw or entice one away from their nests. These are formed with little art; being merely shallow concavities dug in the sand, in which the eggs are laid, and, during the day at least, left to the influence of the sun to hatch them. The parents, however, always remain near the spot to protect them from injury, and probably in cold rainy or stormy weather, to shelter them with their bodies. The eggs are three, sometimes four, large for the bird, of a dun clay color, and marked with numerous small spots of reddish purple.

The voice of these little birds, as they move along the sand, is soft and musical, consisting of a single plaintive note occasionally repeated. As you approach near their nests, they seem to court your attention,

* Wilson in his account of the following species gives reasons for supposing this bird to be specifically different from the Ring Plover of Plate LIX. It is undoubtedly a distinct species; and has been named by Mr. Ord, Piping Plover—*C. Melodus*. The synonymes given by our author do not of course apply to this species.

† Adult in spring dress.

and the moment they think you observe them, they spread out their wings and tail, dragging themselves along, and imitating the squeaking of young birds; if you turn from them they immediately resume their proper posture until they have again caught your eye, when they display the same attempts at deception as before. A flat dry sandy beach, just beyond the reach of the summer tides, is their favorite place for breeding.

This species is subject to great variety of change in its plumage. In the month of July I found most of those that were breeding on Sommers's Beach, at the mouth of Great Egg Harbor, such as I have here figured: but about the beginning or middle of October they had become much darker above, and their plumage otherwise varied. They were then collected in flocks; their former theatrical and deceptive manœuvres seemed all forgotten. They appeared more active than before, as well as more silent; alighting within a short distance of one, and feeding about without the least appearance of suspicion. At the commencement of winter they all go off towards the south.

This variety of the Ringed Plover is seven inches long, and fourteen in extent: the bill is reddish yellow for half its length, and black at the extremity: the front and whole lower parts pure white, except the side of the breast, which is marked with a curving streak of black, another spot of black bounding the front above; back and upper parts very pale brown, inclining to ashy white, and intermixed with white; wings pale brown, greater coverts broadly tipped with white; interior edges of the secondaries, and outer edges of the primaries white, and tipped with brown; tail nearly even, the lower half white, brown towards the extremity, the outer feather pure white, the next white with a single spot of black; eye black, and full, surrounded by a narrow ring of yellow; legs reddish yellow; claws black; lower side of the wings pure white.

SPECIES II. *C. HIATICULA*.*

RING PLOVER.

[Plate LIX. Fig. 3.]

Arct. Zool. p. 485, No. 401.—*La petit Pluvier à collier*, BUFF. VIII., 90.—BEWICK, I., 326.†

IN a preceding part of this work‡ a bird by this name has been figured and described, under the supposition that it was the Ring Plover, then in its summer dress; but which, notwithstanding its great resemblance to the present, I now suspect to be a different species. Fearful of perpetuating error, and anxious to retract, where this may inadvertently have been the case, I shall submit to the consideration of the reader the reasons on which my present suspicions are founded.

The present species, or true Ring Plover, and also the former, or light colored bird, both arrive on the seacoast of New Jersey late in April. The present kind continues to be seen in flocks until late in May, when they disappear on their way farther north; the light colored bird remains during the summer, forms its nest in the sand, and generally produces two broods in the season. Early in September the present species returns in flocks as before; soon after this, the light colored kind goes off to the south, but the other remain a full month later. European writers inform us, that the Ring Plover has a sharp twittering note, and this account agrees exactly with that of the present; the light colored species, on the contrary, has a peculiarly soft and musical note, similar to the tone of a German flute, which it utters while running along the sand, with expanded tail, and hanging wings, endeavoring to decoy you from its nest. The present species is never seen to breed here; and though I have opened great numbers of them as late as the twentieth of May, the eggs, which the females contained, were never larger than small bird-shot; while, at the same time, the light colored kind had everywhere begun to lay in the little cavities which they had dug on the

* *Tringa hiaticula*, in the original edition, which with Prince Musignano, we consider as a typographical error.

† *Charadrius semipalmatus*, BONAPARTE, *Ann. Lyc. Nat. Hist. N. Y.* Vol. II., p. 296.

‡ See preceding species.

sand, on the beach. These facts being considered, it seems difficult to reconcile such difference of habit in one and the same bird. The Ring Plover is common in England, and agrees exactly with the one before us; but the light colored species, as far as I can learn, is not found in Britain; specimens of it have indeed been taken to that country, where the most judicious of their ornithologists have concluded it to be still the Ring Plover, but to have changed from the effect of climate. Mr. Pennant, in speaking of the true Ring Plover, makes the following remarks: "Almost all which I have seen from the northern parts of North America have had the black marks extremely faint, and almost lost. The climate had almost destroyed the specific marks; yet in the bill and habit preserved sufficient to make the kind very easily ascertained." These traits agree exactly with the light colored species described in our fifth volume. But this excellent naturalist was perhaps not aware that we have the true Ring Plover here in spring and autumn, agreeing in every respect with that of Britain, and at least in equal numbers; why, therefore, has not the climate equally affected the present and the former sort, if both are the same species? These inconsistencies cannot be reconciled but by supposing each to be a distinct species, which, though approaching extremely near to each other, in external appearance, have each their peculiar notes, color, and places of breeding.

The Ring Plover is seven inches long, and fourteen inches in extent; bill short, orange colored, tipped with black, front and chin white, encircling the neck; upper part of the breast black; rest of the lower parts pure white; fore part of the crown black; band from the upper mandible, covering the auriculars, also black; back, scapulars, and wing-coverts, of a brownish ash color; wing quills dusky black, marked with an oval spot of white about the middle of each; tail olive, deepening into black, and tipped with white; legs dull yellow; eye dark hazel, eyelids yellow.

This bird is said to make no nest, but to lay four eggs, of a pale ash color, spotted with black, which she deposits on the ground.* The eggs of the light colored species, formerly described, are of a pale cream color, marked with small round dots of black, as if done with a pen.

The Ring Plover, according to Pennant, inhabits America, down to Jamaica and the Brazils. Is found in summer in Greenland; migrates thence in autumn. Is common in every part of Russia and Siberia. Was found by the navigators as low as Owyhee, one of the Sandwich Islands, and as light colored as those of the highest latitudes.†

* Bewick.† *Arct. Zool.* p. 485.

SPECIES III. *CHARADRIUS WILSONIUS*.

WILSON'S PLOVER.

[Plate LXXIII. Fig. 5.]

OF this neat and prettily marked species I can find no account, and have concluded that it has hitherto escaped the eye of the naturalist. The bird, of which the figure in the plate is a correct resemblance, was shot the thirteenth of May, 1813, on the shore of Cape Island, New Jersey, by my ever-regretted friend; and I have honored it with his name. It was a male, and was accompanied by another of the same sex, and a female, all of which were fortunately obtained.

This bird very much resembles the Ring Plover, except in the length and color of the bill, its size, and in wanting the yellow eyelids. The males and females of this species differ in their markings, but the Ring Plovers nearly agree. We conversed with some sportsmen of Cape May, who asserted that they were acquainted with these birds, and that they sometimes made their appearance in flocks of considerable numbers; others had no knowledge of them. That the species is rare, we were well convinced, as we had diligently explored the shore of a considerable part of Cape May, in the vicinity of Great Egg Harbor, many times, at different seasons, and had never seen them before. How long they remain on our coast, and where they winter, we are unable to say. From the circumstance of the oviduct of the female being greatly enlarged, and containing an egg half grown, apparently within a week of being ready for exclusion, we concluded that they breed there. Their favorite places of resort appear to be the dry sand flats on the seashore. They utter an agreeable piping note; and run swiftly.

This species is eight inches in length, and fifteen and a half in extent; the bill is black, stout, and an inch long, the upper mandible projecting considerably over the lower; front white, passing on each side to the middle of the eye above, and bounded by a band of black of equal breadth; lores black; eyelids white; eye large and dark; from the middle of the eye, backwards, the stripe of white becomes duller, and extends for half an inch; the crown, hind head and auriculars, are drab olive; the chin, throat, and sides of the neck for an inch, pure white, passing quite round the neck, and narrowing to a point behind; the upper breast below this is marked with a broad band of jet

black; the rest of the lower parts pure white; upper parts pale olive drab; along the edges of the auriculars, and hind head, the plumage, where it joins the white, is stained with raw terra sienna; all the plumage is darkest in the centre; the tertials are fully longer than the primaries, the latter brownish black, the shafts and edges of some of the middle ones white; secondaries, and greater coverts, slightly tipped with white; the legs are of a pale flesh color; toes bordered with a narrow edge; claws and ends of the toes black; the tail is even, a very little longer than the wings, and of a blackish olive color, with the exception of the two exterior feathers, which are whitish, but generally only the two middle ones are seen.

The female differs in having no black on the forehead, lores, or breast, these parts being pale olive.*

Since publishing the foregoing, Mr. T. R. Peale and myself, in an excursion, in the month of May, on the coast of New Jersey, found this species to be pretty common, in the vicinity of Brigantine Beach. We also observed them in various places between Great Egg Harbor and Long Beach.—*G. Ord.*

SPECIES IV. *CHARADRIUS VOCIFERUS*

KILDEER PLOVER.

[Plate LIX. Fig. 6.]

Arct. Zool. No. 400.—CATESBY, I., 71.—*Le Kildir*, BUFF. VIII., 96.†

THIS restless and noisy bird is known to almost every inhabitant of the United States, being a common and pretty constant resident. During the severity of winter, when snow covers the ground, it retreats to the seashore, where it is found at all seasons; but no sooner have the rivers broken up, than its shrill note is again heard, either roaming about high in air, tracing the shore of the river, or running amidst the watery flats and meadows. As spring advances, it resorts to the newly ploughed fields, or level plains bare of grass, interspersed with shallow pools; or, in the vicinity of the sea, dry bare sandy fields. In some such situation it generally chooses to breed, about the beginning of May. The nest is usually slight, a mere hollow, with such materials drawn in around it

* From Mr. Ord's supplementary volume.

† *Charadrius vociferus*, Gmel. *Syst.* I., p. 685, No. 3.—*Pluvier à collier de Virginie*, BRISS. v., p. 68.—LATH. *Ind. Orn.* p. 742, No. 6.—*Pl. Enl.* 286.

as happen to be near, such as bits of sticks, straw, pebbles, or earth. In one instance, I found the nest of this bird paved with fragments of clam and oyster shells, and very neatly surrounded with a mound or border of the same, placed in a very close and curious manner. In some cases there is no vestige whatever of a nest. The eggs are usually four, of a bright rich cream, or yellowish clay color, thickly marked with blotches of black. They are large for the size of the bird, measuring more than an inch and a half in length, and a full inch in width, tapering to a narrow point at the great end.

Nothing can exceed the alarm and anxiety of these birds during the breeding season. Their cries of *kildeer, kildeer*, as they winnow the air over head, dive and course around you, or run along the ground counterfeiting lameness, are shrill and incessant. The moment they see a person approach, they fly or run to attack him with their harassing clamor, continuing it over so wide an extent of ground, that they puzzle the pursuer as to the particular spot where the nest or young are concealed; very much resembling, in this respect, the Lapwing of Europe. During the evening, and long after dusk, particularly in moonlight, their cries are frequently heard with equal violence, both in the spring and fall. From this circumstance, and their flying about both after dusk, and before dawn, it appears probable that they see better at such times than most of their tribe. They are known to feed much on worms, and many of these rise to the surface during the night. The prowling of Owls may also alarm their fears for their young at those hours; but whatever may be the cause, the facts are so.

The Kildeer is more abundant in the Southern States in winter than in summer. Among the rice fields, and even around the planters' yards in South Carolina, I observed them very numerous, in the months of February and March. There the negro boys frequently practise the barbarous mode of catching them with a line, at the extremity of which is a crooked pin, with a worm on it. Their flight is something like that of the Tern, but more vigorous; and they sometimes rise to a great height in the air. They are fond of wading in pools of water; and frequently bathe themselves during the summer. They usually stand erect on their legs, and run or walk with the body in a stiff horizontal position; they run with great swiftness, and are also strong and vigorous in the wings. Their flesh is eaten by some, but is not in general esteem, though others say, that in the fall, when they become very fat, it is excellent.

During the extreme droughts of summer, these birds resort to the gravelly channel of brooks and shallow streams, where they can wade about in search of aquatic insects. At the close of summer they generally descend to the seashore, in small flocks, seldom more than ten or

twelve being seen together. They are then more serene and silent, as well as difficult to be approached.

The Kildeer is ten inches long, and twenty inches in extent; the bill is black; frontlet, chin, and ring round the neck, white; fore part of the crown, and auriculars from the bill backwards, blackish olive; eyelids bright scarlet; eye very large, and of a full black; from the centre of the eye backwards a stripe of white; round the lower part of the neck is a broad band of black; below that a band of white, succeeded by another rounding band or crescent of black; rest of the lower parts pure white; crown and hind-head light olive brown; back, scapulars, and wing-coverts, olive brown, skirted with brownish yellow; primary quills black, streaked across the middle with white; bastard wing tipped with white; greater coverts broadly tipped with white; rump and tail-coverts orange; tail tapering, dull orange, crossed near the end with a broad bar of black, and tipped with orange, the two middle feathers near an inch longer than the adjoining ones; legs and feet a pale light clay color. The tertials, as usual in this tribe, are very long, reaching nearly to the tips of the primaries; exterior toe joined by a membrane to the middle one, as far as the first joint.

SPECIES V. *CHARADRIUS PLUVIALIS*.

GOLDEN PLOVER.

[Plate LIX. Fig. 5.]

Arct. Zool. p. 493, No. 399.—BEWICK, I., 322.—*Le Pluvier doré*, BUFF. VIII., 81.—*Pl. Enl.* 904.*

THIS beautiful species visits the seacoast of New York and New Jersey in spring and autumn; but does not, as far as I can discover, breed in any part of the United States. They are most frequently met with in the months of September and October; soon after which they disappear. The young birds of the great Black-bellied Plover are sometimes mistaken for this species. Hence the reason why Mr. Pennant

* We add the following synonymes from Prince Musignano's "Observations:—" *Charadrius pluvialis*, LINN. GMEL. LATH. winter dress. TEMM. VIEILL.—*Charadrius apricarius*, LINN. GMEL. LATH. summer dress, (not of Wilson, which is a four-toed bird, *Vanellus helveticus*.)—*Pluvialis aurea*, BRISS. winter dress.—*Pluvialis aurea minor*, BRISS. winter dress.—*Pluvialis dominicensis aurea*, BRISS. winter dress.—*Pluvialis aurea Freti Hudsonis*, BRISS. summer dress.—*Le Pluvier d'or*, BUFF. *Pl. Enl.* 904, winter dress.

remarks his having seen a variety of the Golden Plover, with black breasts, which he supposed to be the young.*

The Golden Plover is common in the northern parts of Europe. It breeds on high and heathy mountains. The female lays four eggs, of a pale olive color, variegated with blackish spots. They usually fly in small flocks, and have a shrill whistling note. They are very frequent in Siberia, where they likewise breed; extend also to Kamtschatka, and as far south as the Sandwich Isles. In this latter place, Mr. Pennant remarks, "they are very small."

Although these birds are occasionally found along our seacoast, from Georgia to Maine, yet they are nowhere numerous; and I have never met with them in the interior. Our mountains being generally covered with forest, and no species of heath having, as yet, been discovered within the boundaries of the United States, these birds are probably induced to seek the more remote arctic regions of the continent to breed and rear their young in, where the country is more open, and unencumbered with woods.

The Golden Plover is ten inches and a half long, and twenty-one inches in extent; bill short, of a dusky slate color; eye very large, blue black; nostrils placed in a deep furrow, and half covered with a prominent membrane; whole upper parts black, thickly marked with roundish spots of various tints of golden yellow; wing-coverts, and hind part of the neck, pale brown, the latter streaked with yellowish; front, broad line over the eye, chin, and sides of the same, yellowish white, streaked with small pointed spots of brown olive; breast gray, with olive and white; sides under the wings marked thinly with transverse bars of pale olive; belly and vent white; wing quills black, the middle of the shafts marked with white; greater coverts black, tipped with white; tail rounded, black, barred with triangular spots of golden yellow; legs dark dusky slate; feet three-toed, with generally the slight rudiments of a heel, the outer toe connected as far as the first joint with the middle one. The male and female differ very little in color.

* Arct. Zool. p. 484.

SPECIES VI. *CHARADRIUS APRICARIUS*.*

BLACK-BELLIED PLOVER.

[Plate LVII. Fig. 4.]

Alwagrim Plover, *Arct. Zool.* p. 483, No. 398.—*Le Pluvier doré à gorge noire*, *BUFF.* VIII., 85.

THIS bird is known in some parts of the country by the name of the large Whistling Field Plover. It generally makes its first appearance in Pennsylvania late in April; frequents the countries towards the mountains; seems particularly attached to newly ploughed fields, where it forms its nest, of a few slight materials, as slightly put together. The female lays four eggs, large for the size of the bird, of a light olive color, dashed with black; and has frequently two broods in the same season. It is an extremely shy and watchful bird, though clamorous during breeding time. The young are without the black color on the breast and belly until the second year, and the colors of the plumage above are likewise imperfect till then. They feed on worms, grubs, winged insects, and various kinds of berries, particularly those usually called dewberries, and are at such times considered exquisite eating. About the beginning of September, they descend with their young to the seacoast, and associate with the numerous multitudes then returning from their breeding places in the north. At this season they abound on the plains of Long Island. They have a loud whistling note; often fly at a great height; and are called by many gunners along the coast, the Black-bellied Kildeer. The young of the first year have considerable resemblance to those of the Golden Plover; but may be easily distinguished from this last by the largeness of their head and bill, and in

* *Charadrius Helveticus*, BONAPARTE, *Journal Acad. Nat. Sc.* v., p. 103. *Ann. Lyc.* II., p. 298.—*Vanellus Helveticus*, BRISS. v., p. 107, pl. 10, fig. 1, summer dress. ORB's reprint, VII., p. 42.—*Vanellus griseus*, Id. p. 100, pl. 9, fig. 1, winter dress.—*Vanellus varius*, Id. p. 103, pl. 9, fig. 2, young.—*Tringa Helvetica*, LATH. *Ind. Orn.* p. 728, No. 10, summer dress of the adult.—*T. squatarola*, Id. p. 729, No. 11, winter plumage.—*Le Vanneau varie*, *BUFF. Pl. Enl.* 923, winter dress.—*Le Vanneau gris*, Id. 854, young.—*Le Vanneau suisse*, Id. 853, summer dress of adult.—*Gray Sandpiper*, *Arct. Zool.* No. 393.—*Swiss Sandpiper*, Id. No. 396.—*British Zool.* No. 191.—EDWARDS, III, pl. 140.—*Vanellus melanozaster*, BECHSTEIN, IV., p. 356.—LATH. *Syn.* III., p. 167, No. 10; p. 168, No. 11; p. 169, Var. A.—Id. *Supp.* p. 248.—TEMM. *Man. d'Orn.* 549.

being at least two inches more in length. The greater number of those which I have examined have the rudiments of a hind toe; but the character and manners of the Plover are so conspicuous in the bird, as to determine, at the first glance, the tribe it belongs to. They continue about the seacoast until early in November, when they move off to the south.

This same bird, Mr. Pennant informs us, inhabits all the north of Europe, Iceland, Greenland, and Hudson's Bay, and all the arctic part of Siberia. It is said, that at Hudson's Bay it is called the Hawk's-eye, on account of its brilliancy. It appears, says the same author, in Greenland in the spring, about the southern lakes, and feeds on worms and berries of the heath.

This species is twelve inches long, and twenty-four inches in extent; the bill is thick, deeply grooved on the upper mandible an inch and a quarter in length, and of a black color; the head and globe of the eye are both remarkably large, the latter deep bluish black; forehead white; crown and hind-head black, spotted with golden yellow; back and scapulars dusky, sprinkled with the same golden or orange colored spots, mixed with others of white; breast, belly and vent black; sides of the breast whitish; wing quills black, middle of the shafts white; greater coverts black, tipped with white; lining of the wing black; tail regularly barred with blackish and pure white; tail-coverts pure white; legs and feet a dusky lead color; the exterior toe joined to the middle by a broad membrane; hind toe very small.

From the length of time which these birds take to acquire their full colors, they are found in very various stages of plumage. The breast and belly are at first white, gradually appear mottled with black, and finally become totally black. The spots of orange, or golden, on the crown, hind-head and back, are at first white, and sometimes even the breast itself is marked with these spots, mingled among the black. In every stage, the seemingly disproportionate size of the head, and thickness of the bill, will distinguish this species.

NOTE.—Mr. Ord furnishes the following additional information respecting this species in his reprint of the seventh volume of Wilson.

An adult male, shot the 26th of April, near Philadelphia, measured eleven inches in length; space between the eye and bill, and cheeks, black; throat, and thence down the breast and belly, as far as the thighs, black, with white intermixed; front pure white, which extends in a narrow line over the eyes, bordering the black of the neck, as far as the breast; crown, and thence down the back part of the neck, brown and white; upper parts, with wing-coverts, banded with white and black, with some ashy brown feathers interspersed, the whole presenting an irregularly spotted appearance—the back, scapulars and tertials with

greenish reflections; lower part of abdomen, thighs, vent, lining of the wings, and under tail-coverts, pure white, the exterior vanes of the last spotted with brown black; sides under the wings very pale ash, with faint ashy brown bars; upper tail-coverts white, with narrow ashy brown bars, which increase in size, and become darker, up the rump; the upper part of the inner webs of the primaries white; bill, legs and feet, of a shining black; no golden or orange colored spots. The parts not mentioned agreeing with those of the foregoing.

Another adult male, shot at Egg Harbor, on the 10th of May, was twelve inches in length, and had its cheeks, lores, throat, middle of the breast and belly, as far as the thighs, black; the *long feathers of the sides*, at the junction of the wings, also black; feathers of the crown ash, centered with black, and tipped with white; back brownish black, plumage broadly tipped with white; wing-coverts brown ash and black, broadly spotted and tipped with white; tail white, broadly barred with black; no golden spots.

An adult female, shot at Egg Harbor, on the 26th of May, was twelve inches in length; upper parts olive brown, spotted with black and white, the *long feathers of the sides*, at the junction of the wings, black; wings crossed with a broad band of white, immediately under their coverts, spreading over their shafts; secondaries pale olive, edged and tipped with white; primaries and their coverts, black; throat and sides of the neck white, spotted with dark olive; breast and belly, as far as the thighs, black, intermixed with white; legs and feet deep purplish slate. The black of the lower parts was not so deep as that of the foregoing male. Her eggs were small.

A young male, shot at Egg Harbor, in the month of October, had whitish spots on a brownish black ground; crown nearly black, spotted with brownish yellow; breast, throat and eyebrows, pure white; the *long feathers of the sides*, at the junction of the wings, black; legs and feet lead-colored.

A young bird in Peale's collection, supposed to be a male of the first year, had its head, neck, and whole upper parts, brown ash or dark gray, spotted with white; breast white, with pale brown ash intermixed; lower part of the abdomen, and under tail-coverts, white; tail white, with large bars of ashy brown; lining of the wings white; the *long feathers of the sides*, at the junction of the wings, dusky; primaries paler than in the adult, but similarly marked with white. It had no golden or orange colored spots.

I have little doubt that the Black-bellied Plover described by Pennant as common at Hudson's Bay, and called there Hawk's-eye, is this species, although authors record it among the synonymes of the Golden Plover, in its spring dress. The hind toe of this species is very small and slender; and in dried specimens it adheres so closely to the tarsus

that it is frequently overlooked. It likewise is liable to be rubbed off; this accident probably occurred to the specimen figured and described by Edwards, under the name of Spotted Plover; for I have no hesitation in pronouncing it to be of the same species with the subject of this article. The bird figured in the British Zoology of Pennant, as the Golden Plover (Plate LXXII.), appears to be the young of this species, in its winter dress; for it is represented with a hind toe, which the true Golden Plover is never furnished with. Hence we must conclude that those authors, who describe the latter as having *sometimes* a hind toe, confound the young of the two species, which in truth so nearly resemble each other in their plumage that it requires a close observation to distinguish them. But the young of the Black-bellied Plover, or present species, may be known by their large head and stout bill; by their hind toe; and by the long dusky or black feathers which lie next to the sides, at the junction of the wings.

In the Manuel d'Ornithologie of Temminck, unquestionably the best work on the birds of Europe which has ever been published, the changes which this species undergoes are clearly detailed; and its synonymes are so well settled, that the future ornithologist will find his labors much lightened, when the subject of this article, in any stage of plumage, shall come before him. In the excellent Supplement to Montagu's Ornithological Dictionary we are also presented with some valuable references; and the editor of this volume with pleasure acknowledges the sources whence he has drawn that information which has enabled him to determine the species.

SPECIES VII. *CHARADRIUS CALIDRIS*.*

SANDERLING PLOVER.

[Plate LIX. Fig. 4.†]

LINN. *Syst.* 255.—*Arct. Zool.* p. 486, No. 403.—*Le Sanderling*, BUFF. VII., 532.—
BEWICK, II., 19.

IN this well known bird we have another proof of the imperfection of systematic arrangement, where no attention is paid to the general habits; but where one single circumstance is sometimes considered sufficient to determine the species. The genus Plover is characterized by several strong family traits, one of which is that of wanting the hind toe. The Sandpipers have also their peculiar external characters of bill, general form, &c., by which they are easily distinguished from the former. The present species, though possessing the bill, general figure, manners and voice, of the Sandpipers, feeding the same way, and associating with these in particular; yet, wanting the hind toe, has been classed with the Plovers, with whom, this single circumstance excepted, it has no one characteristic in common. Though we have not, in the present instance, presumed to alter this arrangement, yet it appears both reasonable and natural, that where the specific characters in any bird seem to waver between two species, that the figure, voice and habits of the equivocal one should always be taken into consideration, and be allowed finally to determine the class to which it belongs. Had this rule been followed in the present instance, the bird we are now about to describe would have undoubtedly been classed with the Sandpipers.‡

The history of this species has little in it to excite our interest or attention. It makes its appearance on our seacoasts early in September; continues during the greater part of winter; and on the approach of spring, returns to the northern regions to breed. While here, it seems perpetually busy, running along the wave-worn strand, following

* *Calidris arenaria*, ORD's reprint, vol. VII., p. 72.—*Tringa arenaria*, GMEL. *Syst.* I., p. 680, No. 16.—LATH. *Syn.* III., 197, No. 4.—*Ind. Orn.* p. 741, No. 4.—*Calidris grisea minor*, BRISS. v., p. 236, pl. 20, fig. 2.—TEMN. *Man. d'Orn.* p. 524.

† Winter dress.

‡ It is now arranged by naturalists in the genus *Calidris*, of Illiger; a genus constructed expressly for this bird; and it is the only species of the genus yet discovered.

the flux and reflux of the surf, eagerly picking up its food from the sand, amid the roar of the ocean. It flies in numerous flocks, keeping a low meandering course along the ridges of the tumbling surf. On alighting, the whole scatter about after the receding wave, busily picking up those minute bivalves already described. As the succeeding wave returns, it bears the whole of them before it in one crowded line; then is the moment seized by the experienced gunner to sweep them in flank, with his destructive shot. The flying survivors, after a few aerial meanders, again alight, and pursue their usual avocation, as busily and unconcernedly as before. These birds are most numerous on extensive sandy beaches in front of the ocean. Among rocks, marshes, or stones covered with sea-weed, they seldom make their appearance.

The Sanderling is eight inches long, and fourteen inches in extent; the bill is black, an inch and a quarter in length, slender, straight, fluted along the upper mandible, and exactly formed like that of the Sandpiper; the head, neck above, back, scapulars and tertials, are gray white; the shafts blackish, and the webs tinged with brownish ash; shoulder of the wing black; greater coverts broadly tipped with white; quills black, crossed with a transverse band of white; the tail extends a little beyond the wings, and is of a grayish ash color, edged with white, the two middle feathers being about half an inch longer than the others; eye dark hazel; whole lower parts of the plumage pure white; legs, and naked part of the thighs, black; feet three-toed, each divided to its origin, and bordered with a narrow membrane.

Such are the most common markings of this bird, both of males and females, particularly during the winter; but many others occur among them, early in the autumn, thickly marked or spotted with black on the crown, back, scapulars and tertials, so as to appear much mottled, having as much black as white on those parts. In many of these I have observed the plain gray plumage coming out about the middle of October; so that, perhaps, the gray may be their winter, and the spotted their summer, dress.

I have also met with many specimens of this bird, not only thickly speckled with white and black above, but also on the neck, and strongly tinged on both with ferruginous; in which dress it has been mistaken by Mr. Pennant and others for a new species; the description of his "Ruddy Plover" agreeing exactly with this.* A figure of the Sanderling, in this state of plumage, will be introduced in some part of the present work.

* See Arct. Zool. p. 486, No. 404

*CHARADRIUS RUBIDUS.**

RUDDY PLOVER.

[Plate LXIII. Fig. 3.]

Arct. Zool. No. 404.—*LATH. Syn.* III., p. 195, No. 2.—*TURT. Syst.* p. 415.

THIS bird is frequently found in company with the Sanderling, which, except in color, it very much resembles. It is generally seen on the seacoast of New Jersey in May and October, on its way to and from its breeding place in the north. It runs with great activity along the edge of the flowing or retreating waves, on the sands, picking up the small bivalve shell-fish, which supply so many multitudes of the Plover and Sandpiper tribes.

I should not be surprised if the present species turn out hereafter to be the Sanderling itself, in a different dress. Of many scores which I examined, scarce two were alike; in some the plumage of the back was almost plain; in others the black plumage was just shooting out. This was in the month of October. Naturalists, however, have considered it as a separate species; but have given us no further particulars, than that "in Hudson's Bay it is known by the name of *Mistchaychekiskaweshish*;" † a piece of information certainly very instructive!

The Ruddy Plover is eight inches long, and fifteen in extent; the bill is black, an inch long, and straight; sides of the neck, and whole upper parts, speckled largely with white, black and ferruginous; the feathers being centered with black, tipped with white, and edged with ferruginous, giving the bird a very motley appearance; belly and vent pure white; wing quills black, crossed with a band of white; lesser coverts whitish, centred with pale olive, the first two or three rows black; two middle tail feathers black; the rest pale cinereous, edged with white; legs and feet black; toes bordered with a very narrow membrane. On dissection, both males and females varied in their colors and markings.

* This is the preceding species in perfect summer plumage.

† Latham.

GENUS LXXVI. HÆMATOPUS. OYSTER-CATCHER.

SPECIES. *H. OSTRALEGUS*.*

PIED OYSTER-CATCHER.

[Plate LXIV. Fig. 2.]

Arch. Zool. No. 406.—*LATH. Syn.* III., p. 219.—*CATESBY*, I., 85.—*BEWICK*, II., 23.

THIS singular species, although nowhere numerous, inhabits almost every seashore, both on the new and old continent, but is never found inland. It is the only one of its genus hitherto discovered, and from the conformation of some of its parts one might almost be led by fancy to suppose, that it had borrowed the eye of the Pheasant, the legs and feet of the Bustard, and the bill of the Woodpecker.

The Oyster-catcher frequents the sandy sea beach of New Jersey, and other parts of our Atlantic coast in summer, in small parties of two or three pairs together. They are extremely shy, and, except about the season of breeding, will seldom permit a person to approach within gunshot. They walk along the shore in a watchful stately manner, at times probing it with their long wedge-like bills in search of small shell-fish. This appears evident on examining the hard sands where they usually resort, which are found thickly perforated with oblong holes two or three inches in depth. The small crabs called *fiddlers*, that burrow in the mud at the bottom of inlets, are frequently the prey of the Oyster-catcher; as are muscles, spout-fish, and a variety of other shell-fish and sea insects with which those shores abound.

The principal food, however, of this bird, according to European writers, and that from which it derives its name, is the oyster, which it is said to watch for, and snatch suddenly from the shells, whenever it surprises them sufficiently open. In search of these it is reported that it often frequents the oyster beds, looking out for the slightest opening through which it may attack its unwary prey. For this purpose the form of its bill seems very fitly calculated. Yet the truth of these accounts is doubted by the inhabitants of Egg Harbor and other parts of our coast, who positively assert that it never haunts such places, but confines itself almost solely to the sands. And this opinion I am inclined to

* *Gmel. Syst.* I., p. 694.—*LATH. Ind. Orn.* p. 752.—*Gen. Syn.* III., p. 219.—*STEPHENS, Gen. Zool.* XI., p. 494, pl. 36.—*L'Huitrier, BUFF.* VIII., p. 119, pl. 9.—*Pl. Enl.* No. 929.—*TEMM. Man. d'Orn.* p. 531.

believe correct; having myself uniformly found these birds on the smooth beach bordering the ocean, and on the higher dry and level sands, just beyond the reach of the summer tides. On this last situation, where the dry flats are thickly interspersed with drifted shells, I have repeatedly found their nests, between the middle and twenty-fifth of May. The nest itself is a slight hollow in the sand, containing three eggs, somewhat less than those of a hen, and nearly of the same shape, of a bluish cream color, marked with large roundish spots of black, and others of a fainter tint. In some the ground cream color is destitute of the bluish tint, the blotches larger, and of a deep brown. The young are hatched about the twenty-fifth of May, and sometimes earlier, having myself caught them running along the beach about that period. They are at first covered with down of a grayish color, very much resembling that of the sand, and marked with a streak of brownish black on the back, rump and neck, the breast being dusky, where in the old ones it is black. The bill is at that age slightly bent downwards at the tip, where, like most other young birds, it has a hard protuberance that assists them in breaking the shell; but in a few days afterwards this falls off.* These run along the shore with great ease and swiftness.

The female sits on her eggs only during the night, or in remarkably cold and rainy weather; at other times the heat of the sun and of the sand, which is sometimes great, renders incubation unnecessary. But although this is the case, she is not deficient in care or affection. She watches the spot with an attachment, anxiety and perseverance that are really surprising, till the time arrives when her little offspring burst their prisons, and follow the guiding voice of their mother. When there is appearance of danger they squat on the sand, from which they are with difficulty distinguished, while the parents make large circuits around the intruder, alighting sometimes on this hand, sometimes on that, uttering repeated cries, and practising the common affectionate stratagem of counterfeited lameness to allure him from their young.

These birds run and fly with great vigor and velocity. Their note is a loud and shrill whistling *whEEP—whEEP—wheo*, smartly uttered. A flock will often rise, descend, and wheel in air with remarkable regularity, as if drilled to the business, the glittering white of their wings at such times being very conspicuous. They are more remarkable for this on their first arrival in the spring. Some time ago I received a stuffed specimen of the *Oyster-catcher* from a gentleman of Boston, an expe-

* Latham observes, that the young are said to be hatched in about three weeks; and though they are wild when in flocks, yet are easily brought up tame if taken young. "I have known them," says he, "to be thus kept for a long time, frequenting the ponds and ditches during the day, attending the ducks and other poultry to shelter of nights, and not unfrequently to come up of themselves as evening approaches." *Gen. Synop.* vol. III., p. 220.

rienced sportsman, who nevertheless was unacquainted with this bird. He informed me that two very old men to whom it was shown called it a *Hagdel*. He adds, "it was shot from a flock which was first discovered on the beach near the entrance of Boston harbor. On the approach of the gunner they rose and instantly formed in line, like a corps of troops, and advanced in perfect order, keeping well dressed. They made a number of circuits in the air previous to being shot at, but wheeled in line; and the man who fired into the flock, observed that all their evolutions were like a regularly organized military company."

The Oyster-catcher will not only take to the water when wounded, but can also swim and dive well. This fact I can assert from my own observation, the exploits of one of them in this way having nearly cost me my life. On the sea beach of Cape May, not far from a deep and rapid inlet, I broke the wing of one of these birds, and being without a dog, instantly pursued it towards the inlet, which it made for with great rapidity. We both plunged in nearly at the same instant; but the bird eluded my grasp, and I sunk beyond my depth; it was not until this moment that I recollected having carried in my gun along with me. On rising to the surface I found the bird had dived, and a strong ebb current was carrying me fast towards the ocean, encumbered with a gun and all my shooting apparatus; I was compelled to relinquish my bird, and to make for the shore, with considerable mortification, and the total destruction of the contents of my powderhorn. The wounded bird afterwards rose, and swam with great buoyancy out among the breakers.

On the same day I shot and examined three individuals of this species, two of which measured each eighteen inches in length, and thirty-five inches in extent; the other was somewhat less. The bills varied in length, measuring three inches and three-quarters, three and a half, and three and a quarter, thinly compressed at the point, very much like that of the Woodpecker tribe, but remarkably narrowed near the base where the nostrils are placed, probably that it may work with more freedom in the sand. This instrument for two-thirds of its length towards the point, was evidently much worn by digging; its color a rich orange scarlet, somewhat yellowish near the tip; eye large, orbits of the same bright scarlet as the bill, irides brilliant yellow, pupil small, bluish black; under the eye is a small spot of white, and a large bed of the same on the wing coverts; head, neck, scapulars, rump, wing quills, and tail black; several of the primaries are marked on the outer vanes with a slanting band of white; secondaries white, part of them tipped with black; the whole lower parts of the body, sides of the rump, tail coverts, and that portion of the tail which they cover, are pure white; the wings, when shut, cover the whole white plumage of the back and

rum; legs and naked part of the thighs pale red; feet three toed, the outer joined to the middle by a broad and strong membrane, and each bordered with a rough warty edge; the soles of the feet are defended from the hard sand and shells by a remarkably thick and callous warty skin.

On opening these birds the smallest of the three was found to be a male; the gullet widened into a kind of crop; the stomach, or gizzard, contained fragments of shell-fish, pieces of crabs, and of the great king-crab, with some dark brown marine insects. The flesh was remarkably firm and muscular, the skull thick and strong, intended no doubt, as in the Woodpecker tribe, for the security of the brain from the violent concussions it might receive while the bird was engaged in digging. The female and young birds have the back and scapulars of a sooty brownish olive.

This species is found as far south as Cayenne and Surinam. Dampier met with it on the coast of New Holland; the British circumnavigators also saw it on Van Diemen's Land, Terra del Fuego, and New Zealand.

GENUS LXXVIII. RALLUS. RAIL.

SPECIES I. *R. CREPITANS.*

CLAPPER RAIL.

[Plate LXII. Fig. 2.]

Arct. Zool. No. 407.—*Turt. Syst.* p. 430.—*Lath. Syn.* III., p. 229, No. 2.

THIS is a very numerous and well known species, inhabiting our whole Atlantic coast from New England to Florida. It is designated by different names, such as the Mud-hen, Clapper Rail, Meadow-clapper, Big Rail, &c., &c. Though occasionally found along the swampy shores, and tide waters, of our large rivers, its principal residence is in the salt marshes. It is a bird of passage, arriving on the coast of New Jersey about the 20th of April, and retiring again late in September. I suspect that many of them winter in the marshes of Georgia and Florida, having heard them very numerous, at the mouth of Savannah river, in the month of February. Coasters and fishermen often hear them while on their migrations, in spring, generally a little before daybreak. The shores of New Jersey, within the beach, consisting of an immense extent of flat marsh, covered with a coarse reedy grass, and occasionally overflowed by the sea, by which it is also cut up into innumerable islands by narrow inlets, seem to be the favorite breeding place for these

birds, as they are there acknowledged to be more than double in number to all other marsh fowl.

The Clapper Rail, or as it is generally called, the Mud-hen, soon announces its arrival in the salt marshes, by its loud, harsh and incessant cackling, which very much resembles that of a Guinea fowl. This noise is most general during the night; and is said to be always greatest before a storm. About the 20th of May, they generally commence laying and building at the same time; the first egg being usually dropped in a slight cavity, lined with a little dry grass, pulled for the purpose, which, as the number of the eggs increase to their usual complement, *ten*, is gradually added to, until it rises to the height of twelve inches or more, doubtless to secure it from the rising of the tides. Over this, the long salt grass is artfully arched, and knit at top, to conceal it from the view above: but this very circumstance enables the experienced egg-hunter to distinguish the spot at the distance of thirty or forty yards, though imperceptible to a common eye. The eggs are of a pale clay color, sprinkled with small spots of dark red, and measure somewhat more than an inch and a half in length, by one inch in breadth, being rather obtuse at the small end. These eggs are exquisite eating, far surpassing those of the domestic hen. The height of laying is about the 1st of June, when the people of the neighborhood go off to the marshes *an eggging*, as it is called. So abundant are the nests of this species, and so dexterous some persons at finding them, that one hundred dozens of eggs have been collected by one man in a day. At this time the crows, the foxes, and the minxes, come in for their share; but not content with the eggs, these last often seize and devour the parents also. The bones, feathers, wings, &c., of the poor Mud-hen lie in heaps near the hole of the minx; by which circumstance, however, he himself is often detected and destroyed.

These birds are also subject to another calamity, of a more extensive kind. After the greater part of the eggs are laid, there sometimes happen violent north-east tempests, that drive a great sea into the bay, covering the whole marshes; so that at such times the Rail may be seen in hundreds, floating over the marsh in great distress; many escape to the main land; and vast numbers perish. On an occasion of this kind I have seen, at one view, thousands in a single meadow, walking about exposed and bewildered, while the dead bodies of the females, who had perished on or near their nests, were strewed along the shore. This last circumstance proves how strong the ties of maternal affection are in these birds; for of the great numbers which I picked up and opened, not one male was to be found among them; all were females! such as had not yet begun to sit probably escaped. These disasters do not prevent the survivors from recommencing the work of laying and building anew; and instances have occurred, where their eggs have been

twice destroyed by the sea; and yet in two weeks, the eggs and nests seemed as numerous as ever.

The young of the Clapper Rail very much resemble those of the Virginian Rail, except in being larger. On the 10th of August, I examined one of these young Clapper Rails, caught among the reeds in the Delaware, and apparently about three weeks old; it was covered with black down, with the exception of a spot of white on the auriculars, and a streak of the same along the side of the breast, belly, and fore part of the thigh; the legs were of a blackish slate color; and the bill was marked with a spot of white near the point, and round the nostril. These run with great facility among the grass and reeds, and are taken with extreme difficulty.

The whole defence of this species seems to be in the nervous vigor of its limbs, and thin compressed form of its body, by which it is enabled to pass between the stalks of grass and reeds with great rapidity. There are also everywhere among the salt marshes, covered ways under the flat and matted grass, through which the rail makes its way like a rat, without a possibility of being seen. There is generally one or more of these from its nest to the water edge, by which it may escape unseen; and sometimes, if closely pressed, it will dive to the other side of the pond, gut, or inlet, rising and disappearing again with the silence and celerity of thought. In smooth water it swims tolerably well, but not fast; sitting high in the water, with its neck erect, and striking with great rapidity. When on shore, it runs with the neck extended, the tail erect, and frequently flirts up. On fair ground, they run nearly as fast as a man; having myself, with great difficulty, caught some that were wing-broken. They have also the faculty of remaining under water for several minutes, clinging close, head downwards, by the roots of the grass. In a long stretch, they fly with great velocity, very much in the manner of a Duck, with extended neck, and generally low; but such is their aversion to take wing, that you may traverse the marshes, where there are hundreds of these birds, without seeing one of them; nor will they flush until they have led the dog through numerous labyrinths, and he is on the very point of seizing them.

The food of the Clapper Rail consists of small shell-fish, particularly those of the snail form, so abundant in the marshes; they also eat small crabs. Their flesh is dry, tastes sedgy, and will bear no comparison with that of the common Rail. Early in October, they move off to the south; and though, even in winter, a solitary instance of one may sometimes be seen, yet these are generally such as have been weak or wounded, and unable to perform the journey.

The Clapper Rail measures fourteen inches in length, and eighteen in extent: the bill is two inches and a quarter long, slightly bent, pointed, grooved, and of a reddish brown color; iris of the eye dark red; nos-

tril oblong, pervious; crown, neck and back, black, streaked with dingy brown; chin, and line over the eye, brownish white; auriculars dusky, neck before, and whole breast, of the same red brown as that of the preceding species; wing coverts dark chestnut; quill feathers plain dusky; legs reddish brown; flanks and vent black, tipped or barred with white. The males and females are nearly alike.

The young birds of the first year have the upper parts of an olive brown, streaked with pale slate; wings pale brown olive; chin, and part of the throat, white; breast ash color, tinged with brown; legs and feet a pale horn color. Mr. Pennant, and several other naturalists, appear to have taken their descriptions from these imperfect specimens, the Clapper Rail being altogether unknown in Europe.

I have never met with any of these birds in the interior at a distance from lakes or rivers. I have also made diligent inquiry for them along the shores of Lakes Champlain and Ontario, but without success.

NOTE.—Mr. T. Peale and myself had an opportunity of verifying the conjecture of the author, as to the winter retreat of these birds; we having found them to be extremely numerous in the marshes of the coast of Georgia, in the month of January. In such multitudes were they along the borders of the streams or passages, which separate the sea-islands from the main, that their loud and incessant noise became quite as disgusting as the monotonous cackle of that intolerable nuisance, the Guinea-fowl.—*G. Ord.*

SPECIES II. *RALLUS VIRGINIANUS*.

VIRGINIAN RAIL.

[Plate LXII. Fig. 1.]

Arct. Zool. No. 408.—EDW. 279.—LATH. *Syn.* III., p. 228, No. 1, var. *Á*.

THIS species very much resembles the European Water Rail (*Rallus aquaticus*), but is smaller, and has none of the slate or lead color on the breast, which marks that of the old continent; its toes are also more than proportionably shorter, which, with a few other peculiarities, distinguish the species. It is far less numerous in this part of the United States than our common Rail, and, as I apprehend, inhabits more remote northern regions. It is frequently seen along the borders of our salt marshes, which the other rarely visits; and also breeds there, as well as among the meadows that border our large rivers. It spreads over the interior as far west as the Ohio, having myself shot it in the Barrens of Kentucky, early in May. The people there observe them in wet places, in the groves, only in spring. It feeds less on vegetable, and more on animal, food than the common Rail. During the months of September and October, when the reeds and wild oats swarm with the latter species, feeding on their nutritious seeds, a few of the present kind are occasionally found; but not one for five hundred of the others. The food of the present species consists of small snail shells, worms, and the larvæ of insects, which it extracts from the mud; hence the cause of its greater length of bill, to enable it the more readily to reach its food. On this account also, its flesh is much inferior to that of the other. In most of its habits, its thin compressed form of body, its aversion to take wing, and the dexterity with which it runs or conceals itself among the grass and sedge, are exactly similar to those of the common Rail, from which genus, notwithstanding the difference of its bill, it ought not to be separated.

This bird is known to some of the inhabitants along the sea-coast of New Jersey, by the name of Fresh-water *Mud-hen*, this last being the common appellation of the Clapper Rail, which the present species resembles in everything but size. The epithet Fresh-water, is given it because of its frequenting those parts of the marsh only, where fresh water springs rise through the bogs into the salt marshes. In these places it usually constructs its nest, one of which, through the active exertions of my friend, Mr. Ord, while traversing with me the salt marshes of Cape May, we had the good fortune to discover. It was built in the bottom of a tuft of grass, in the midst of an almost impe-

netrable quagmire, and was composed altogether of old wet grass and rushes. The eggs had been floated out of the nest by the extraordinary rise of the tide, in a violent north-east storm, and lay scattered about among the drift-weed. The female, however, still lingered near the spot, to which she was so attached, as to suffer herself to be taken by hand. She doubtless intended to repair her nest, and commence laying anew; as, during the few hours that she was in our possession, she laid one egg, corresponding in all respects with the others. On examining those floated out of the nest, they contained young, perfectly formed but dead. The usual number of eggs is from six to ten. They are shaped like those of the domestic hen, measuring one inch and two-tenths long, by very nearly half an inch in width, and are of a dirty white, or pale cream color, sprinkled with specks of reddish, and pale purple, most numerous near the great end. They commence laying early in May, and probably raise two broods in the season. I suspect this from the circumstance of Mr. Ord having, late in the month of July, brought me several young ones, of only a few days old, which were caught among the grass, near the border of the Delaware. The parent Rail showed great solicitude for their safety. They were wholly black, except a white spot on the bill; were covered with a fine down, and had a soft piping note. In the month of June, of the same year, another pair of these birds began to breed amidst a boggy spring in one of Mr. Bartram's meadows; but were unfortunately destroyed.

The Virginian Rail is migratory, never wintering in the Northern or Middle States. It makes its first appearance in Pennsylvania early in May; and leaves the country on the first smart frosts generally in November. I have no doubt but many of them linger in the low woods, and marshes, of the Southern States, during winter.

This species is ten inches long, and fourteen inches in extent; bill dusky red; cheeks and stripe over the eye ash, over the lores, and at the lower eyelid, white; iris of the eye red; crown and whole upper parts black, streaked with brown, the centre of each feather being black; wing-coverts hazel brown, inclining to chestnut; quills plain deep dusky; chin white; throat, breast and belly, orange brown; sides and vent black, tipped with white; legs and feet dull red brown; edge of the bend of the wing white.

The female is about half an inch shorter, and differs from the male in having the breast much paler, not of so bright a reddish brown; there is also more white on the chin and throat.

When seen, which is very rarely, these birds stand or run with the tail erect, which they frequently jerk upwards. They fly with the legs hanging, generally but a short distance; and the moment they alight, run off with great speed.

SPECIES III. *RALLUS CAROLINUS*.

R A I L.

[Plate XLVIII. Fig. 1, Male.]

Sorex, CATESB. I., 70.—*Arct. Zool.* p. 491, No. 409.—*Little American Water Hen*, EDW. 144.—*Le Râl de Virginie*, BUFF. VIII., 165.*

OF all our land or water fowl, perhaps none afford the sportsman more agreeable amusement, or a more delicious repast, than the little bird now before us. This amusement is indeed temporary, lasting only two or three hours in the day, for four or five weeks in each year; but as it occurs in the most agreeable and temperate of our seasons, is attended with little or no fatigue to the gunner, and is frequently successful, it attracts numerous followers, and is pursued, in such places as the birds frequent, with great eagerness and enthusiasm.

The natural history of the *Rail*, or as it is called in Virginia the *Sora*, and in South Carolina the *Coot*, is, to the most of our sportsmen, involved in profound and inexplicable mystery. It comes, they know not whence; and goes, they know not whither. No one can detect their first moment of arrival; yet all at once the reedy shores, and grassy marshes, of our large rivers swarm with them, thousands being sometimes found within the space of a few acres. These, when they do venture on wing, seem to fly so feebly, and in such short fluttering flights among the reeds, as to render it highly improbable, to most people, that they could possibly make their way over an extensive tract of country. Yet, on the first smart frost that occurs, the whole suddenly disappear, as if they had never been.

To account for these extraordinary phenomena, it has been supposed, by some, that they bury themselves in the mud; but as this is every year dug into by ditchers and people employed in repairing the banks, without any of those sleepers being found, where but a few weeks before these birds were innumerable, this theory has been generally abandoned. And here their researches into this mysterious matter generally end in the common exclamation of "What can become of them!" Some profound inquirers, however, not discouraged with these difficulties, have

* *Rallus Carolinus*, LINN. *Syst.* p. 153, No. 5, ed. 10.—*Gallinula Carolina*, LATH. *Ind. Orn.* p. 771, No. 17.

prosecuted their researches with more success; and one of those, living a few years ago near the mouth of James river, in Virginia, where the Rail or Sora are extremely numerous, has (as I was informed on the spot) lately discovered, that they change into *frogs*! having himself found in his meadows an animal of an extraordinary kind, that appeared to be neither a Sora nor a frog; but, as he expressed it, "something between the two." He carried it to his negroes, and afterwards took it home, where it lived three days, and in his own, and his negroes' opinion, it looked like nothing in this world but a real Sora, changing into a frog! What farther confirms this grand discovery, is the well known circumstance of the frogs ceasing to hollow as soon as the Sora comes in the fall.

This sagacious discoverer, however, like many others renowned in history, has found but a few supporters; and, except his own negroes, has not, as far as I can learn, made a single convert to his opinion. Matters being so circumstanced, and some explanation necessary, I shall endeavor to throw a little more light on the subject, by a simple detail of facts, leaving the reader to form his own theory as he pleases.

The Rail or Sora belongs to a genus of birds of which about thirty different species are enumerated by naturalists; and these are distributed over almost every region of the habitable parts of the earth. The general character of these is everywhere the same. They run swiftly, fly slowly, and usually with the legs hanging down; become extremely fat; are fond of concealment; and, wherever it is practicable, prefer running to flying. Most of them are migratory, and abound during the summer in certain countries, the inhabitants of which have very rarely an opportunity of seeing them. Of this last the Land Rail of Britain is a striking example. This bird, which, during the summer months, may be heard in almost every grass and clover field in the kingdom, uttering its common note *crek, crek*, from sunset to a late hour in the night, is yet unknown, by sight, to more than nine-tenths of the inhabitants. "Its well known cry," says Bewick, "is first heard as soon as the grass becomes long enough to shelter it, and continues till the grass is cut; but the bird is seldom seen, for it constantly skulks among the thickest part of the herbage, and runs so nimbly through it, winding and doubling in every direction, that it is difficult to come near it; when hard pushed by the dog, it sometimes stops short, and squats down, by which means its too eager pursuer overshoots the spot, and loses the trace. It seldom springs but when driven to extremity, and generally flies with its legs hanging down, but never to a great distance; as soon as it alights it runs off, and before the fowler has reached the spot, the bird is at a considerable distance."* The *Water Crake*, or

* Bewick's British Birds, vol. i., p. 308.

Spotted Rail of the same country, which in its plumage approaches nearer to our Rail, is another notable example of the same general habit of the genus. "Its common abode," says the same writer, "is in low swampy grounds, in which are pools or streamlets overgrown with willows, reeds and rushes, where it lurks and hides itself with great circumspection; it is wild, solitary and shy, and will swim, dive or skulk under any cover, and sometimes suffer itself to be knocked on the head, rather than rise before the sportsman and his dog." The Water Rail of the same country is equally noted for the like habits. In short, the whole genus possess this strong family character in a very remarkable degree.

These three species are well known to migrate into Britain early in spring, and to leave it for the more southern parts of Europe in autumn. Yet they are rarely or never seen in their passage to or from the countries where they are regularly found at different seasons of the year; and this for the very same reasons, that they are so rarely seen even in the places where they inhabit.

It is not, therefore, at all surprising, that the regular migrations of the American Rail or Sora should, in like manner, have escaped notice in a country like this, whose population bears so small a proportion to its extent; and where the study of natural history is so little attended to. But that these migrations do actually take place, from north to south, and *vice versa*, may be fairly inferred from the common practice of thousands of other species of birds less solicitous of concealment, and also from the following facts.

On the twenty-second day of February I killed two of these birds in the neighborhood of Savannah in Georgia, where they have never been observed during the summer. On the second of the May following, I shot another in a watery thicket below Philadelphia, between the rivers Schuylkill and Delaware, in what is usually called the *Neck*. This last was a male, in full plumage. We are also informed, that they arrive at Hudson's Bay early in June, and again leave that settlement for the south early in autumn. That many of them also remain here to breed is proved by the testimony of persons of credit and intelligence with whom I have conversed, both here and on James river in Virginia, who have seen their nests, eggs and young. In the extensive meadows that border the Schuylkill and Delaware, it was formerly common, before the country was so thickly settled there, to find young Rail in the first mowing time, among the grass. Mr. James Bartram, brother to the botanist, a venerable and still active man of eighty-three, and well acquainted with this bird, says, that he has often seen and caught young Rail in his own meadows in the month of June; he has also seen their nest, which he says is usually in a tussock of grass, is formed of a little dry grass, and has four or five eggs of a dirty whitish color, with brown

or blackish spots; the young run off as soon as they break the shell, are then quite black, and run about among the grass like mice. The old ones he has very rarely observed at that time, but the young often. Almost every old settler along these meadows, with whom I have conversed, has occasionally seen young Rail in mowing time; and all agree in describing them as covered with blackish down. There can, therefore, be no reasonable doubt as to the residence of many of these birds both here and to the northward during the summer. That there can be as little doubt relative to their winter retreat, will appear more particularly towards the sequel of the present account. During their residence here, in summer, their manners exactly correspond with those of the Water Crake of Britain already quoted; so that, though actually a different species, their particular habits, common places of resort, and eagerness for concealment, are as nearly the same as the nature of the climates will admit.

Early in August, when the reeds along the shores of the Delaware have attained their full growth, the Rail resort to them in great numbers, to feed on the seeds of this plant, of which they, as well as the Rice-birds, and several others, are immoderately fond. These reeds, which appear to be the *Zizania panicula effusa* of Linnæus, and the *Zizania clavulosa* of Willdenow, grow up from the soft muddy shores of the tide water, which are alternately dry, and covered with four or five feet of water. They rise with an erect, tapering stem to the height of eight or ten feet, being nearly as thick below as a man's wrist, and cover tracts along the river, of many acres. The cattle feed on their long green leaves with avidity, and wade in after them, as far as they dare safely venture. They grow up so close together that, except at or near high water, a boat can with difficulty make its way through among them. The seeds are produced at the top of the plant, the blossoms or male parts occupying the lower branches of the pannicle, and the seeds the higher. These seeds are nearly as long as a common-sized pin, somewhat more slender, white, sweet to the taste, and very nutritive, as appears by their effects on the various birds that, at this season, feed on them.

When the reeds are in this state, and even while in blossom, the Rail are found to have taken possession of them in great numbers. These are generally numerous in proportion to the full and promising crop of the former. As you walk along the embankment of the river, at this season, you hear them squeaking in every direction, like young puppies; if a stone be thrown among the reeds, there is a general outcry, and a reiterated *kuk kuk kuk*, something like that of a Guinea-fowl. Any sudden noise, or the discharge of a gun, produces the same effect. In the meantime, none are to be seen, unless it be at or near high-water; for when the tide is low, they universally secrete themselves among the

interstices of the reeds, and you may walk past, and even over them, where there are hundreds, without seeing a single individual. On their first arrival they are generally lean, and unfit for the table; but as the reeds ripen, they rapidly fatten, and from the 20th of September to the middle of October are excellent, and eagerly sought after. The usual method of shooting them, in this quarter of the country, is as follows. The sportsman furnishes himself with a light batteau, and a stout experienced boatman, with a pole of twelve or fifteen feet long, thickened at the lower end, to prevent it from sinking too deep into the mud. About two hours or so before high-water, they enter the reeds, and each takes his post, the sportsman standing in the bow ready for action, the boatman on the stern seat, pushing her steadily through the reeds. The Rail generally spring singly, as the boat advances, and at a short distance ahead, are instantly shot down, while the boatman, keeping his eye on the spot where the bird fell, directs the boat forward, and picks it up as the gunner is loading. It is also the boatman's business to keep a sharp look-out, and give the word *mark*, when a Rail springs on either side, without being observed by the sportsman, and to note the exact spot where it falls, until he has picked it up; for this once lost sight of, owing to the sameness in the appearance of the reeds, is seldom found again. In this manner the boat moves steadily through, and over the reeds, the birds flushing and falling, the gunner loading and firing, while the boatman is pushing and picking up. The sport continues till an hour or two after high-water, when the shallowness of the water, and the strength and weight of the floating reeds, as also the backwardness of the game to spring as the tide decreases, obliges them to return. Several boats are sometimes within a short distance of each other, and a perpetual cracking of musketry prevails along the whole reedy shores of the river. In these excursions it is not uncommon for an active and expert marksman to kill ten or twelve dozens in a tide. They are usually shot singly, though I have known five killed at one discharge of a double-barrelled piece. These instances, however, are rare.

The flight of these birds among the reeds is usually low; and, shelter being abundant, is rarely extended to more than fifty or one hundred yards. When winged, and uninjured in their legs, they swim and dive with great rapidity, and are seldom seen to rise again. I have several times, on such occasions, discovered them clinging with their feet to the reeds under the water, and at other times skulking under the floating reeds, with their bill just above the surface. Sometimes, when wounded, they dive, and rising under the gunwale of the boat, secrete themselves there, moving round as the boat moves, until they have an opportunity of escaping unnoticed. They are feeble and delicate in everything but the legs, which seem to possess great vigor and energy; and their bodies being so remarkably thin, or compressed, as to be less than an

inch and a quarter through transversely, they are enabled to pass between the reeds like rats. When seen, they are almost constantly jetting up the tail. Yet, though their flight among the reeds seems feeble and fluttering, every sportsman, who is acquainted with them here, must have seen them occasionally rising to a considerable height, stretching out their legs behind them, and flying rapidly across the river, where it is more than a mile in width.

Such is the mode of Rail-shooting in the neighborhood of Philadelphia. In Virginia, particularly along the shores of James river, within the tide water, where the Rail, or Sora, are in prodigious numbers, they are also shot on the wing, but more usually taken at night in the following manner:—A kind of iron grate is fixed on the top of a stout pole, which is placed like a mast, in a light canoe, and filled with fire. The darker the night the more successful is the sport. The person who manages the canoe is provided with a light paddle, ten or twelve feet in length; and about an hour before high-water proceeds through among the reeds, which lie broken and floating on the surface. The whole space, for a considerable way round the canoe, is completely enlightened; the birds stare with astonishment, and as they appear, are knocked on the head with the paddle, and thrown into the canoe. In this manner from twenty to eighty dozens have been killed by three negroes, in the short space of three hours.

At the same season, or a little earlier, they are very numerous in the lagoons near Detroit, on our northern frontiers, where another species of reed (of which they are equally fond) grows in shallows, in great abundance. Gentlemen who have shot them there, and on whose judgment I can rely, assure me, that they differ in nothing from those they have usually killed on the shores of the Delaware and Schuylkill; they are equally fat, and exquisite eating. On the seacoast of New Jersey, where these reeds are not to be found, this bird is altogether unknown; though along the marshes of Maurice river, and other tributary streams of the Delaware, and wherever the reeds abound, the Rail are sure to be found also. Most of them leave Pennsylvania before the end of October, and the Southern States early in November; though numbers linger in the warm southern marshes the whole winter. A very worthy gentleman, Mr. Harrison, who lives in Kittiwau, near a creek of that name, on the borders of James river, informed me, that in burning his meadows early in March, they generally raise and destroy several of these birds. That the great body of these Rail winter in countries beyond the United States, is rendered highly probable from their being so frequently met with at sea, between our shores and the West India Islands. A Captain Douglass informed me, that on his voyage from St. Domingo to Philadelphia, and more than a hundred miles from the capes of the Delaware, one night the man at the helm was alarmed by

a sudden crash on deck, that broke the glass in the binnacle, and put out the light. On examining into the cause, three Rail were found on deck, two of which were killed on the spot, and the other died soon after. The late Bishop Madison, president of William and Mary College, Virginia, assured me, that a Mr. Skipwith, for some time our consul in Europe, in his return to the United States, when upwards of three hundred miles from the capes of the Chesapeake, several Rail or Soras, I think five or six, came on board, and were caught by the people. Mr. Skipwith being well acquainted with the bird, assured him that they were the very same with those usually killed on James river. I have received like assurances from several other gentlemen, and captains of vessels, who have met with these birds between the main land and the islands, so as to leave no doubt on my mind of the fact. For, why should it be considered incredible that a bird which can both swim and dive well, and at pleasure fly with great rapidity, as I have myself frequently witnessed, should be incapable of migrating, like so many others, over extensive tracts of land or sea? Inhabiting, as they do, the remote regions of Hudson's Bay, where it is impossible they could subsist during the rigors of their winter, they must either emigrate thence or perish; and as the same places in Pennsylvania, which abound with them in October, are often laid under ice and snow during the winter, it is as impossible that they could exist here in that inclement season; Heaven has therefore given them, in common with many others, certain prescience of these circumstances; and judgment, as well as strength of flight, sufficient to seek more genial climates, abounding with their suitable food.

The Rail is nine inches long, and fourteen inches in extent; bill yellow, blackish towards the point; lores, front crown, chin, and stripe down the throat, black; line over the eye, cheeks and breast, fine light ash; sides of the crown, neck, and upper parts generally olive brown, streaked with black, and also with long lines of pure white, the feathers being centered with black, on a brown olive ground, and edged with white; these touches of white are shorter near the shoulder of the wing, lengthening as they descend; wing plain olive brown; tertials streaked with black and long lines of white; tail pointed, dusky olive brown, centered with black, the four middle feathers bordered for half their length with lines of white; lower part of the breast marked with semicircular lines of white, on a light ash ground; belly white; sides under the wings deep olive, barred with black, white, and reddish buff; vent brownish buff; legs, feet, and naked part of the thighs, yellowish green; exterior edge of the wing white; eyes reddish hazel.

The females, and young of the first season, have the throat white, the breast pale brown, and little or no black on the head. The males

may always be distinguished by their ashy blue breasts, and black throats.

During the greater part of the months of September and October, the market of Philadelphia is abundantly supplied with Rail, which are sold from half a dollar to a dollar a dozen. Soon after the twentieth of October, at which time our first smart frosts generally take place, these birds move off to the south. In Virginia they usually remain until the first week in November.

Since the above was written, I have received from Mr. George Ord, of Philadelphia, some curious particulars relative to this bird, which, as they are new, and come from a gentleman of respectability, are worthy of being recorded, and merit further investigation.

“My personal experience,” says Mr. Ord, “has made me acquainted with a fact in the history of the Rail, which perhaps is not generally known; and I shall, as briefly as possible, communicate it to you. Some time in the autumn of the year 1809, as I was walking in a yard, after a severe shower of rain, I perceived the feet of a bird projecting from a spout. I pulled it out, and discovered it to be a Rail, very vigorous, and in perfect health. The bird was placed in a small room, on a gin-case; and I was amusing myself with it, when, in the act of pointing my finger at it, it suddenly sprang forward, apparently much irritated, fell to the floor, and stretching out its feet, and bending its neck, until the head nearly touched the back, became to all appearance lifeless. Thinking the fall had killed the bird, I took it up, and began to lament my rashness in provoking it. In a few minutes it again breathed; and it was some time before it perfectly recovered from the fit, into which, it now appeared evident, it had fallen. I placed the Rail in a room, wherein Canary birds were confined; and resolved that, on the succeeding day, I would endeavor to discover whether or not the passion of anger had produced the fit. I entered the room at the appointed time, and approached the bird, which had retired on beholding me, in a sullen humor, to a corner. On pointing my finger at it, its feathers were immediately ruffled; and in an instant it sprang forward, as in the first instance, and fell into a similar fit. The following day the experiment was repeated, with the like effect. In the autumn of 1811, as I was shooting amongst the reeds, I perceived a Rail rise but a few feet before my batteau. The bird had risen about a yard when it became entangled in the tops of a small bunch of reeds, and immediately fell. Its feet and neck were extended, as in the instances above mentioned; and before it had time to recover, I killed it. Some few days afterwards, as a friend and I were shooting in the same place, he killed a Rail, and, as we approached the spot to pick it up, another was perceived, not a foot off, in a fit. I took up the bird, and placed it in the crown of my hat. In a few moments it revived, and was as vigorous

as ever. These facts go to prove, that the Rail is subject to gusts of passion, which operate to so violent a degree as to produce a disease, similar in its effects to epilepsy. I leave the explication of the phenomenon to those pathologists who are competent and willing to investigate it. It may be worthy of remark, that the birds affected as described, were all females of the *Rallus Carolinus*, or common Rail.

* The Rail, though generally reputed a simple bird, will sometimes manifest symptoms of considerable intelligence. To those acquainted with Rail-shooting, it is hardly necessary to mention, that the tide, in its flux, is considered an almost indispensable auxiliary; for, when the water is off the marsh, the lubricity of the mud, the height and compactness of the reed, and the swiftness of foot of the game, tend to weary the sportsman, and to frustrate his endeavors. Even should he succeed in a tolerable degree, the reward is not commensurate to the labor. I have entered the marsh in a batteau, at a common tide, and in a well-known haunt have beheld but few birds. The next better tide, on resorting to the same spot, I have perceived abundance of game. The fact is, the Rail dive, and conceal themselves beneath the fallen reed, merely projecting their heads above the surface of the water for air, and remain in that situation until the sportsman has passed them; and it is well known, that it is a common practice with wounded Rail to dive to the bottom, and, holding upon some vegetable substance, support themselves in that situation until exhausted. During such times, the bird, in escaping from one enemy, has often to encounter another not less formidable. Eels and cat-fish swarm in every direction, prowling for prey; and it is ten to one if a wounded Rail escapes them. I myself have beheld a large eel make off with a bird that I had shot, before I had time to pick it up; and one of my boys, in bobbing for eels, caught one with a whole Rail in its belly.

“I have heard it observed, that on the increase of the moon the Rail improves in fatness, and decreases in a considerable degree with that planet. Sometimes I have conceited that the remark was just. If it be a fact, I think it may be explained on the supposition, that the bird is enabled to feed at night, as well as by day, while it has the benefit of the moon, and with less interruption than at other periods.”

GENUS LXXX. GALLINULA. GALLINULE.

SPECIES I. *G. MARTINICA.*

MARTINICO GALLINULE.*

[Plate LXXIII. Fig. 2.]

Gallinula Martinica, LATH. *Ind. Orn.* p. 769, 9. *Gen. Syn.* III., p. 255, 7, pl. 88.—*Fulica Martinica*, LINN. *Syst.* ed. 12, I., p. 259, 7.—*Fulica Martinicensis*, GMEL. *Syst.* p. 700, 7.—*La petite Poule-Sultane*, BRISS. *Orn.* v., p. 526, pl. 42, fig. 2.—BUFF. *Ois.* VIII., p. 206.—*La Favourite de Cayenne*, Pl. *Enl.* No. 897, young?

THIS splendid bird is a native of the southern parts of the continent of North America. I have never learned that it migrates as far north as Virginia, though it is probable that it may be occasionally seen in that state. It makes its appearance, in the Sea-islands of Georgia, in the latter part of April; and after spending the summer, it departs, with its young, in the autumn. The marshes of Mexico appear to be its winter residence. It frequents the rice fields and fresh-water ponds, in company with the Common Gallinule; but the latter, being of a more hardy nature, remains all winter, both in Georgia and Florida.

During its migration, this bird is frequently driven to sea, and I have known two or three instances of its having sought refuge on board of vessels. On the 24th May, 1824, a brig arrived at Philadelphia, from New Orleans, bringing a fine living specimen, which had flown on board of her in the Gulf Stream.

In the month of August, 1818, a storm drove another individual on board of a vessel, in her passage from Savannah to Philadelphia. This also lived for some time in Peale's Museum.

The Martinico Gallinule is a vigorous and active bird. It bites hard, and is quite expert in the use of its feet. When it seizes upon any substance with its toes, it requires a considerable effort to disengage it. Its toes are long, and spread greatly. It runs with swiftness; and, when walking, it jerks its tail in the manner of the Common Rail. Its manners and food are somewhat similar to those of the far-famed Purple Gallinule, whose history is so beautifully detailed in the works of Buffon.

* Named in the plate Purple Gallinule.

In its native haunts it is vigilant and shy ; and it is not easy to spring it, without the assistance of a dog.

The specimen, from which our drawing was taken, came from the state of Georgia. It is reduced, as well as the rest of the figures in the same plate, to one-half of the size of life.

Length from the tip of the bill to the end of the tail fourteen inches ; bill an inch and a quarter long, vermilion, greenish yellow at the tip ; irides pale cornelian ; naked crown dull azure ; head, part of the neck, throat and breast, of a rich violet purple ; back and scapulars olive green ; rump, tail and its coverts, brownish green ; sides of the neck, and wings, ultramarine, the latter tinged with green ; shoulders of wings rich azure ; inner webs of the quills and tail feathers dusky brown ; belly and thighs dull purplish black ; vent pure white ; tail rounded ; legs and feet greenish yellow, claws long, sharp, and of a pale flesh color ; span of the foot five inches.*

* From Mr. Ord's supplementary volume.

Heick 5/78

AMNH LIBRARY



100099319